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PAPER TRADE JOURNAL

FEBRUARY 28, 1946

60th YEAR
1886 — 1946

In 1886 . . .

The Statue of Liberty was unveiled on Bedloe's Island in the presence of 1,000,000 people. The statue, 151 feet high, was the gift to the United States of 180 cities and thousands of people of France.

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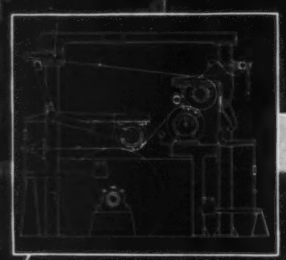

Note absence of pond and slice before the couch nip. Streaks in roll in round illustration are merely photographic phenomena, which show spiral drilling of holes thru wire couch face.

DOWNINGTOWN
Designers & Builders
Paper Making Machinery

PAPER TRADE JOURNAL

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KINNEY CLUTCHES

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PAPER TRADE JOURNAL

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February 28, 1946

Paper Industry Heading For Record Year

Over-All Production In 1945 of 17,374,000 Tons Shows Gain of 1% Over 1944—Prospect For 1946 Indicates Output Approximating 18,000,000 Tons and Short Paper Supply For Most of the Year.

By M. C. Dobrow, Executive Secretary, Writing Paper Manufacturers Association

Victory and peace are not the same thing. We are a long way from peace because peace requires a rational and hopeful foundation upon which the world can build and earn its living. We are still living in a pretty sick world, where much that was built up with painful toil over the years has been destroyed or misplaced. The effects of the war will endure for a long time.

Material and spiritual losses have resulted in political confusion. In France and on the Continent generally, the lack of coal and transportation are keeping production down to about 50%-60% of the prewar level. British reconversion is moving very slowly. Lack of transportation and labor are the big bottlenecks.

In the United States reconversion has proceeded rapidly with much less hardship than some had predicted. Production has been high by prewar standards but the aim is to produce civilian goods at twice the prewar rate. The physical difficulties of reconversion are minor, and certainly temporary. But the wage and price problems have been, and probably will continue to be, of major concern throughout 1946, at least.

Inflation

It is unfortunate that the Administration has not adopted fiscal policies to curb the basic causes of inflation. Rise in prices is not the cause of inflation. Consequent demand for increased wages is not entirely the cause of inflation. The basic cause of inflation is in the debasement of the currency. The increase in the vast amount of what the people use for money creates the pressure under which prices and wages are bound to rise. It can be cured partly by greatly increased production of goods. We must also have a national labor policy equitable to employers, employees and the public. The Government must terminate deficit financing and reverse its wartime fiscal policies which increased the national money supply from 65 billion in 1939 to 175 billion early in 1946.

Industry Performance in 1945

In 1945 the industry produced 17,374,000 tons of paper and paperboard. For the industry as a whole this was a gain of 1% over 1944, but 2% below the 1941 production of 17,762,000 tons which remains the record year. However, the detailed figures need to be examined carefully because the comparisons are not the same for paper and paperboard.

In 1945 the production of paperboard at 8,906,000 tons was slightly under the production of 1944, but it was 6% higher than the 1941 output which was 8,400,000 tons.

Paper production in 1945 at 8,469,000 tons was 3% higher than in 1944, but 10% below the previous peak of 9,362,000 tons in 1941.

Fine paper production at 1,004,000 tons in 1945 was close to its previous peak of 1,010,000 tons in 1943.

Book paper output at 1,500,000 tons in 1945 was 26% below its 1941 peak.

The volume of printing paper production increased immediately after the lifting of wartime controls in September, 1945.

Expansion of Paper Making Facilities

With the war over, considerable improvement to existing equipment and the installation of many new machines are planned or are in prospect for the industry.

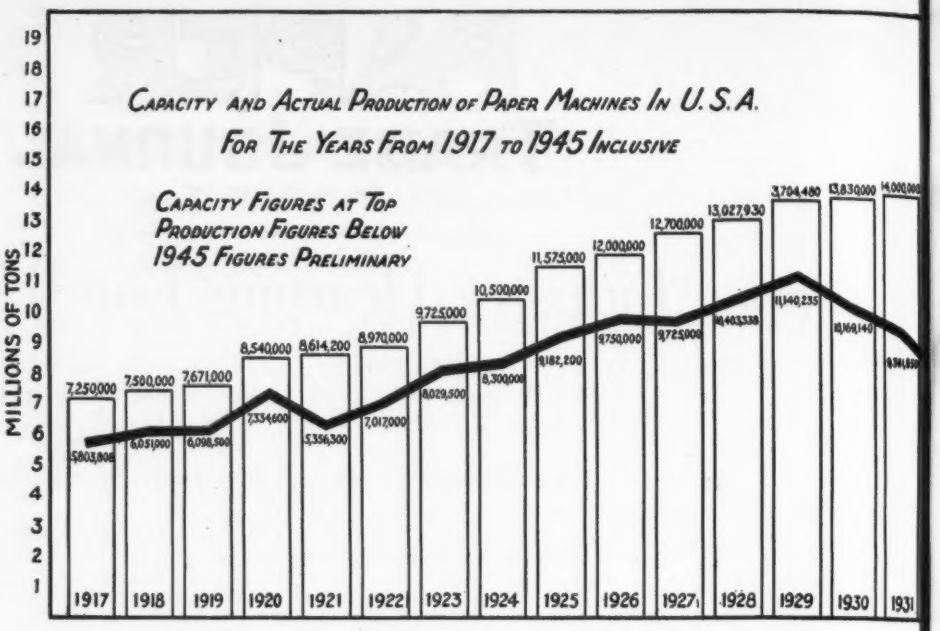
UNITED STATES CAPACITY AND PRODUCTION BY GRADES

Grade	1941 Capacity	1941 Actual Production	1941 %	1943 Capacity	1943 Actual Production	1943 %	1944 Capacity	1944 Actual Production	1944 %	Preliminary 1945 Capacity	Preliminary 1945 Actual Production	Preliminary 1945 %
Writing paper	750,000	738,434	98	860,000	830,046	97	860,000	790,790	92	860,000	816,000	95
Other Fine Papers	224,800	211,580	94	200,000	180,555	90	200,000	176,227	88	200,000	188,500	94
Book Paper	2,045,000	2,025,891	99	1,850,000	1,602,878	87	1,800,000	1,443,140	80	1,800,000	1,500,000	83
Groundwood Printing and Specialty Papers	660,000	642,676	97	660,000	585,673	89	660,000	593,094	90	665,000	636,500	96
Newsprint Paper	1,080,000	1,043,999	97	900,000	811,309	90	900,000	720,752	80	895,000	725,300	81
Tissue Paper	920,000	912,874	99	1,000,000	968,789	97	1,030,000	965,433	94	1,030,000	981,300	95
Wrapping Paper	2,955,000	2,778,441	94	3,050,000	2,470,039	81	3,100,000	2,559,447	83	3,100,000	2,642,700	85
Building Paper	1,175,000	917,912	78	1,100,000	877,582	80	1,100,000	881,246	80	1,100,000	889,500	81
All Other Papers	142,200	90,598	64	110,000	88,383	80	110,000	90,107	82	110,000	88,800	81
Total Paper	9,952,000	9,362,405	94	9,730,000	8,415,254	86	9,760,000	8,220,236	84	9,760,000	8,468,600	87
Paperboard	8,570,000	8,399,960	98	9,100,000	8,620,434	95	9,500,000	8,962,568	94	9,600,000	8,905,600	93
Total Paper and Paperboard	18,522,000	17,762,365	96	18,830,000	17,035,688	90	19,260,000	17,182,804	89	19,360,000	17,374,200	90

For the moment, the bottleneck is the inability of machinery manufacturers to promise delivery before 18 months to 2 years from date of order.

For 1946, machinery manufacturers have definitely scheduled the installation of 27 new paper machines having a daily capacity of 2,521 tons. These machines, plus improvements to existing machines reliably estimated to be completed in 1946, will add about 1,000,000 tons of annual production to the capacity of the industry which was 19,360,000 tons at the end of 1945.

Figures for expansion of paper making facilities in 1947 are not yet available. It is apparent however that the aggregate of these plans will, by far, exceed the one million tons expansion scheduled for 1946.



Pulp Situation Again Uncertain

Conditions influencing wood pulp supply during the next few months are extremely uncertain both as regards imports and domestic production. Due to the closing of navigation and the shortage of fuel, deliveries from Sweden will be greatly curtailed. In addition Swedish producers have become impatient with our OPA price ceilings and have threatened to withhold pulp from this market. A shortage of wood in some sections is retarding domestic pulp productions, making it probable that contracts will not be fully filled.

Domestic pulp production amounted to 10,165,000 tons in 1945 against 10,108,000 tons in 1944. However, this small gain was the remainder of a considerably larger increase achieved in the first six months of 1945. Production in that period was 228,000 tons ahead of 1944, while during the second six months it trailed 171,000 tons behind the same period in the previous year.

Pulp supplies were inadequate in the first nine months of 1945 but the skillful allocation of the available supplies, together with the limitations on use by the War Production Board made it possible for the industry to operate reasonably well and to produce enough yardage of paper to take care of military as well as civilian requirements. Not long after V-E Day, pulp importations from Sweden started to flow to the U. S., which eased the situation. Imports from Sweden up to December 31, 1945, amounted to 672,000 tons. Arrivals of pulp in January, 1946 from Sweden (including a small amount from Finland) totaled 131,000 tons.

On September 30, 1945, WPB lifted all controls on the distribution and consumption of wood pulp. Pulp consumption increased 6% in the 4th quarter over the 3rd quarter of 1945.

Additional increases in consumption of wood pulp since January 1, 1946, and the prospect of greatly diminished imports from Europe have again brought

TOTAL WOOD PULP, ALL GRADES

CALENDAR YEAR 1944

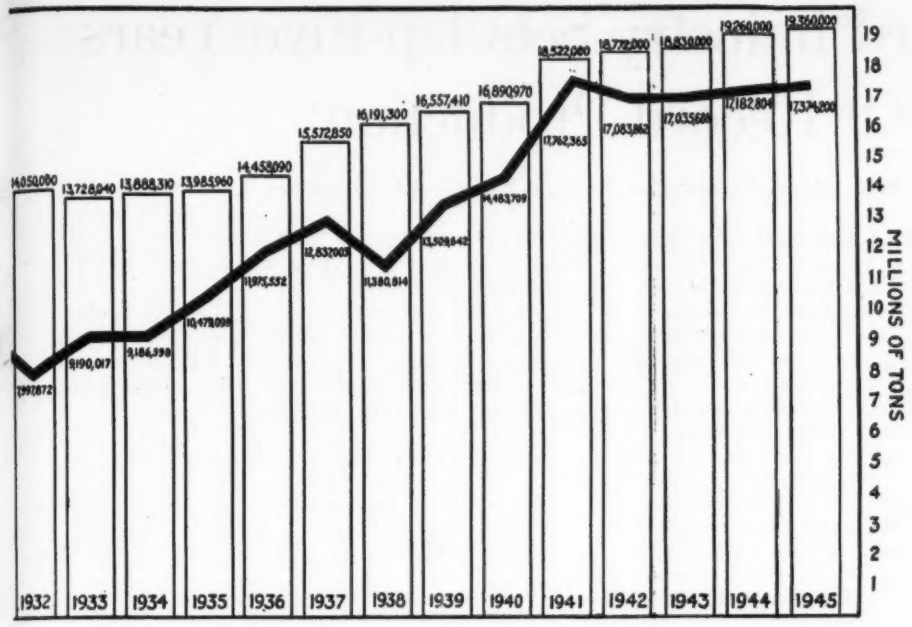
Supply		U. S. Consumption and Exports	
Imports—Canadian	1,072,000	Exports	218,000
Imports—European	.....	In manufacture of non-paper products	556,000
U. S. production	10,108,000	In manufacture of paper and paperboard	10,500,000
	11,180,000		
Withdrawal from inventory	94,000		
	11,274,000		11,274,000

CALENDAR YEAR 1945

Supply		U. S. Consumption and Exports	
Imports—Canadian	1,068,000	Exports	135,000
Imports—European	686,000	In manufacture of non-paper products	500,000
U. S. production	10,165,000	In manufacture of paper and paperboard	10,823,000
			11,458,000
		Inventory replacement	461,000
	11,919,000		11,919,000

ESTIMATE 1ST 6 MOS. 1946

Supply		U. S. Consumption and Exports	
Imports—Canadian	500,000	Exports	25,000
Imports—European	350,000	In manufacture of non-paper products	250,000
U. S. production	4,800,000	In manufacture of paper and paperboard	5,900,000
	5,650,000		
Withdrawal from inventory	525,000		
	6,175,000		6,175,000



about a very tight situation in the pulp market. No easing of this tight situation can be foreseen for several months at least.

The foregoing table is the statistical picture of U. S. supply, consumption and exports for the calendar years 1944 and 1945, together with an estimate for the first six months of 1946. The prospect is clearly one of loss of inventory greater than the gain made in the last six months of 1945. Such withdrawals from inventory in the first six months of 1946 may make it difficult, if not impossible, for many mills to maintain continuous production which is necessary for efficient operation of paper mills.

What Makes the Paper Market Tight?

Since the termination of hostilities, the supply-demand situation in the paper industry has perplexed sellers, buyers and consumers. During the war, users were on short rations because the mills had an insufficient supply of raw material and labor to produce all of the paper that existing machinery could turn out. Supply, so far as the consumer was concerned, was further curtailed because the military services and other government agencies had first-call on 35% of the production. Since the end of hostilities, military requirements for paper have been reduced to the vanishing point. Order M-241 which required the withholding of 35% of production for government needs was revoked. Moreover, since last June, Sweden has shipped us some 800,000 tons of wood pulp to augment our domestic supply. This has made it possible to increase total paper production in the last few months to record high levels.

Nevertheless, the supply-demand situation is extremely tight. The consumer is puzzled by the fact that production is higher, government takings are less, and yet he cannot obtain easily all the paper he wants.

There is no question about the fact that the civilian market has been receiving an increased supply of paper in the last few months but the demands of the consumer have also increased considerably since the limitations on his consumption were removed. During the war consumers of printing papers were generally held down to 75% of 1942 use. Also production and consumption were limited to lighter weights. With the lifting of all controls, consumers were free to use the heavier weights and as much paper as they desired, if they could obtain it. Accordingly, we have had an increase in supply with a concurrent increase in civilian consumption. It should be remembered, too, that we ended the war with the pipe lines pretty empty. There were no inventories at paper mills—subnormal inventories in the hands of merchants and consumers and more or less scarcity conditions in paper markets generally. If the substantial increase in shipments to civilian markets in the last few months could be steadily maintained for a number of months, it is probable that the pipe lines would be replenished to normal levels and we would return to normal supply-demand conditions before the end of the year.

There are, however, three important factors in this picture which should be taken into account in measuring the possibilities of supply-demand for writing and printing papers in 1946.

1). Can paper production be maintained at the recent high level? There is serious doubt that it can, because as previously explained, there may not be a pulp supply in the first half of 1946 sufficiently adequate to maintain such a high level of production.

2). Perhaps the most important reason for expecting a relative scarcity, or an urgent demand for all paper produced, is the expected squeeze by periodicals on the total white paper supply.

Since the lifting of limitations on consumption of paper by periodicals, plans have been carried forward aggressively to add to circulation lists all of those who have been turned away during the war because the magazines did not have enough paper to print all of the copies that were wanted. The magazines have added pages to their issues. Magazines advertising space in December, 1945 was 24% higher than in December the year before. Since the turn of the year magazine advertising space has been 18% higher than a year ago, 40% higher than in 1944. Advertisers with their unbounded optimism and enthusiasm are reported to have planned bigger and better campaigns for 1946.

Publications are increasing the weights of paper they use. They want to get away from the flimsy appearance of wartime magazines. Some of the large publishing companies are planning new publications and these plans call for circulations running into the millions.

No one has put down in black and white how much more tonnage all these ambitious programs will require. We can only guess that the periodicals will go from a consumption of something like 750,000 tons to 1,000,000 tons. This will put a terrible squeeze

(Continued on page 57)

Paperboard Industry Sets Up Five Years Of Record Production

By Grafton Whiting, Statistician, National Paperboard Association

With the close of 1945 the paperboard mills have completed five years of record high production with a yearly average of over 7,700,000 tons compared with an averaged 5,600,000 tons during the five years just prior. Much of this increase was directly traceable to the war which brought about the wide expansion of industry throughout the country.

Paperboard output is closely related to manufacturing activity since most of the tonnage made is fabricated into packaging material which in turn is essential for the protection and shipment of a wide variety of items at the completion of the manufacturing operation. The war accentuated the demand because of the vast amount of ammunition, food, clothing and other supplies that had to be sent overseas. Furthermore, through the ingenuity and resourcefulness of the industries' technicians, paperboard was substituted for other materials which were in scare supply, and this was continued until paperboard itself had to be placed on the list of critical materials.

Since V-J Day a sharp curtailment in government orders was made, particularly in ammunition containers and combat supplies. With the rapid return to this country of the armed forces the need for foreign shipment of food, clothing and other subsistance items was likewise reduced and surplus stocks were drawn upon and not replenished.

Under these circumstances it was anticipated that paperboard orders would experience a similar rapid decline, but the civilian demand, which had been restricted by the government priority schedules, came into the market and changed the abrupt drop to an orderly and gradual falling off.

Orders

The unfilled bank of orders on hand at the opening of 1945 stood at 471,300 tons, or the equivalent of 17.6 days of running time. It rose to 606,000 tons or 22.6 days the first of May and then receded gradually, closing the year with 462,500 tons, or 17.3 days.

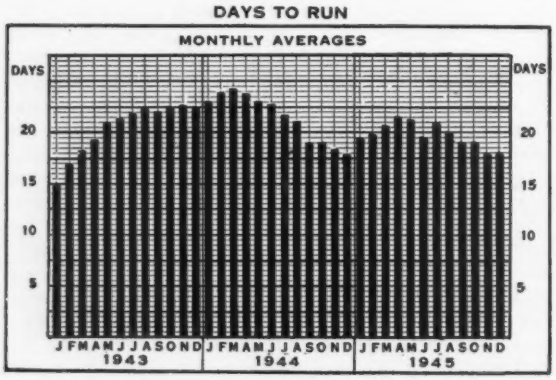


CHART I

The bank of unfilled orders is expressed as the number of days to run necessary to complete all outstanding orders based upon full operation for a 24 hour period. The days here shown are a monthly average.

Chart No. 1 shows the trend in the demand expressed as the average days to run during each month for the past three years.

The balance between orders received and production is the bank of unfilled orders. The following table expresses in average tons per week the receipts and production for each quarter year and the closing unfilled orders, 1943-1945 inclusive.

ORDERS—PRODUCTION—UNFILLED ORDERS
Average Weekly Tons

		Received	Produced	Unfilled at End
1943	1st Quarter	154,900	144,500	511,200
	2nd Quarter	157,900	149,400	580,700
	3rd Quarter	147,600	154,500	579,800
	4th Quarter	145,600	143,100	589,800
1944	1st Quarter	149,600	149,500	607,500
	2nd Quarter	151,400	156,900	549,800
	3rd Quarter	146,900	151,100	486,900
	4th Quarter	151,400	151,900	471,300
1945	1st Quarter	159,100	151,100	549,600
	2nd Quarter	156,300	157,200	499,500
	3rd Quarter	150,000	145,300	492,900
	4th Quarter	148,500	148,700	462,400

A gain in the bank of unfilled orders started in the last quarter of 1942 and continued through the first quarter of 1944. The remainder of the year registered a decline, but 1945 opened with an increase in demand, which, however, did not equal the like period in 1944. A downward trend then followed.

The fluctuations in orders received have little or no effect upon the mills' operation, since it is principally concerned with supplying its customers where the need is most pressing. In pre-war times, a bank of unfilled orders equivalent to eight days was considered a comfortable margin and now the average delivery is delayed over twice as long.

Production

To contrast more clearly the receipt of orders and the production in their fulfillment, Chart No. II is drawn, showing by months for the three years the movement of each. This is expressed in percentage of capacity and illustrates again the gain in orders throughout 1943, the irregularity in 1944 and the upturn and subsequent drop in 1945. Chart No. II should be viewed together with Chart No. I, "Days to Run", and Chart No. III, "Activity", which is later described.

The rate of production, omitting periods influenced by holidays, has been noticeably regular in 1945 due to the large bank of unfilled orders. A review of the tons made weekly shows less variation than in 1943 or 1944 and this has been accomplished in spite of the difficulties in obtaining manpower, and the principal raw materials, which are pulp and wastepaper.

An analysis by grades shows the extent to which shipping containerboards increased in volume relative to box board under the influence of the war effort. During a 10 year pre-war period, containerboards stood at 50.5% of the total paperboard output. From 1941 and for each year following, percentages increased until 1944 showed 52.1%, and for the first six months of 1945 it reached 53.1%.

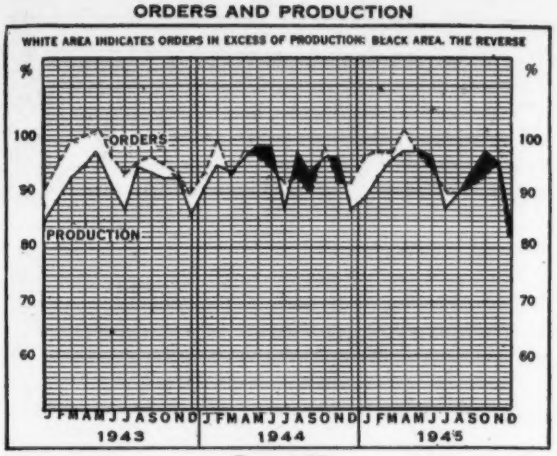

ORDERS AND PRODUCTION
WHITE AREA INDICATES ORDERS IN EXCESS OF PRODUCTION: BLACK AREA, THE REVERSE
%
100
90
80
70
60
ORDERS
PRODUCTION
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1943
1944
1945

CHART II

Incoming orders and production made in their fulfillment are reduced to a percentage, with 100% equal to 6 days of full operation. Over a given period when unfilled orders reach the level at which the movement started the white area-excess of orders is offset and balanced by the black area-excess of production.

For the last 6 months of the year the percentage continually decreased, with December showing 51%. Since 1% represents a shift of over 79,000 tons on a yearly basis the significance of the dislocation can be seen.

This change in relative output permits the mills to revert more fully to the schedule of grade for which their equipment is best suited.

The average weekly tons of production by grades stated by quarter years is as follows:

PRODUCTION OF GRADES
Average Weekly Tons

		Container	Folding	Set-Up	Other	Total
1943	1st Quarter	74,700	32,600	11,600	25,600	144,500
	2nd Quarter	77,000	34,500	12,300	25,600	149,400
	3rd Quarter	75,400	33,100	11,900	25,100	145,500
	4th Quarter	75,800	32,200	10,400	24,700	143,100
1944	1st Quarter	76,400	33,200	10,200	29,700	149,500
	2nd Quarter	82,100	34,800	11,100	28,900	156,900
	3rd Quarter	80,400	33,800	10,200	26,700	151,100
	4th Quarter	78,500	35,400	10,300	27,700	151,900
1945	1st Quarter	80,100	34,300	9,500	27,200	151,100
	2nd Quarter	83,700	35,000	9,900	28,600	157,200
	3rd Quarter	77,500	34,200	9,600	24,000	145,300
	4th Quarter	77,400	37,800	10,400	23,100	148,700

The estimated total production of paperboard during 1945 is 7,870,000 tons.

or .7% below the 7,922,900 made in 1944. This gives a weekly output of 151,300 tons compared with 152,400 in 1944. The loss this year is explained almost entirely by the stoppage of work that took place on V-E and V-J Days, and was never made up.

Activity

Another measurement of mill operation is activity based upon the hours of actual running time contrasted with the possible 144 hours a week—6 days of 24 hours each. The comparison is stated as a percentage and represents in a general way the proportion of the capacity that is being employed. The cumulative activity for 1945 was 93%, the same as in 1944. The weekly activity and the monthly averages vary with conditions encountered in different sections of the country and the interruptions resulting from holidays. No two mills will experience the same degree of activity but, omitting the influence of holidays, the regularity in the average operation has been remarkable for the past two years as shown by the following table of the high and low percents of activity and the spread in points between them:

PERCENT OF ACTIVITY

Year	High	Low	Spread
1942	102%	68%	34 points
1943	97%	86%	11 points
1944	98%	91%	7 points
1945	100%	92%	8 points

The sustained demand has permitted mills to operate close to the 6 day a week level. The average for all operating plants is 5 days and 18 hours. Consistency in operating time is of distinct advantage to mill employees where continuity of work can be counted upon, and the scheduling of orders and efficiency of operation are aided by regularity in running time.

Chart No. III is drawn to show the monthly average percentages of activity during the past three years. The sharp drops occurring in July and at the year end are the results of the holiday interruptions; the irregularity in the second half of 1945 was due to the celebrations of the ending of the wars.

In pre-war years the civilian demand brought about seasonal trends in paperboard production. The peak occurring in October and November is due to preparation for the year-end holiday buying. The second upturn comes in the late winter when the spring and

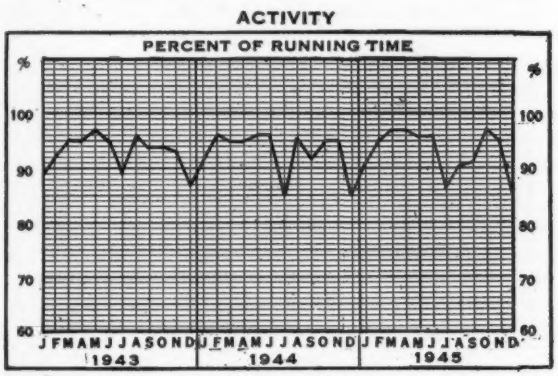


CHART III

Actual operating hours each week divided by 144 hours (6 day week) gives the percent of activity here consolidated into monthly periods. The chart line follows in general the production line on Chart No. II.

summer trade is in the making. These trends were not distinguishable during the war years where near capacity operations obtained and government orders were predicated upon military requirements. With reconversion being rapidly accomplished civilian demand will once more dominate the market and seasonal trends will again exert their influence.

Wood Pulp

The production of pulp in the United States during eleven months of 1945 was 8,696,500 tons, a gain of 0.5% over the like period in 1944. Canada made 5,033,300 tons for a gain of 6%. Pulp consumed in making paperboard may be roughly divided into two parts; that which is produced by pulp mills and processed directly into board and that which is purchased by non-integrated mills as a raw material. The former includes the kraft mills in the South and on the Pacific Coast. The latter includes the independent mills, principally in the North, which rely upon pulp offered in the market to obtain their supply.

The market pulp comes from domestic mills, imports from Canada and recently from Sweden.

The supply from domestic and Canadian mills during the first eleven months of this year was 2,344,300 tons equaling that in 1944. The American pulp supplied to the market is shown in monthly averages as follows:

AMERICAN PULP FOR DOMESTIC MARKET
Average Monthly Tons

Period	1944 Domestic Mills	1944 Canada Imports	1944 Total	1945 Domestic Mills	1945 Canada Imports	1945 Total
1st Quarter	114,000	85,300	199,300	130,300	84,900	215,200
2nd Quarter	120,900	94,600	215,500	132,100	85,200	217,300
3rd Quarter	133,500	83,400	216,900	113,400	89,900	203,300
4th Quarter	130,700	85,000	225,700	118,100	100,300	*218,400

* October and November Average only.

In addition there has been a small amount received from Newfoundland.

Beginning in July, pulp imports from Sweden have been received to augment the market supply. This has permitted the non-integrated mills to increase their pulp consumption and reduce the substitution of reclaimed fibers procured from waste papers. The imports received during the third quarter of 1945 were an average of 69,100 tons per month and for the months of October and November they averaged 127,100 tons; and in December 155,000 tons. The imports have been increasing in volume each successive month with the total reaching 616,500 at the close of 1945.

The paper mills purchase the largest amount of the market pulp and the recent increased supply is reflected in greater mill output and inventory improvement. The paperboard mills consume about 45,000 tons monthly and since the Swedish pulp has become available they have correspondingly improved their inventory position.

Reports from identical paperboard consumers of purchased pulp, representing a large proportion of the industry, are the basis upon which Chart No. IV is drawn. It shows how the effort to maintain full production in the face of a dwindling supply drew upon inventories during 1943 and 1944, and the relief experienced in the last half of 1945, when Swedish

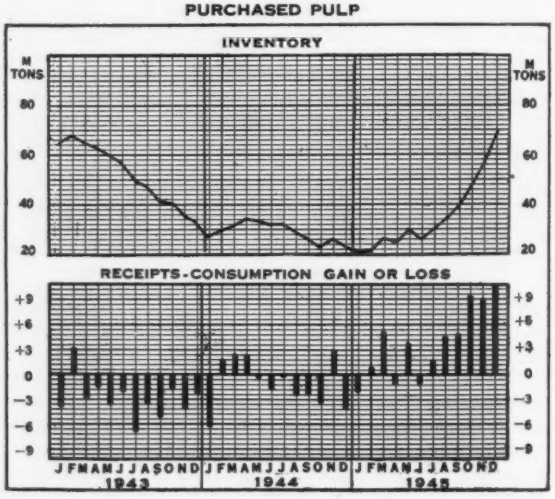


CHART IV

Inventories of purchased pulp reported by identical paperboard mills are shown in tons at the month end in the upper section of the chart. The lower division indicates the gains or losses incurred. The scale of this section is enlarged to accommodate small items.

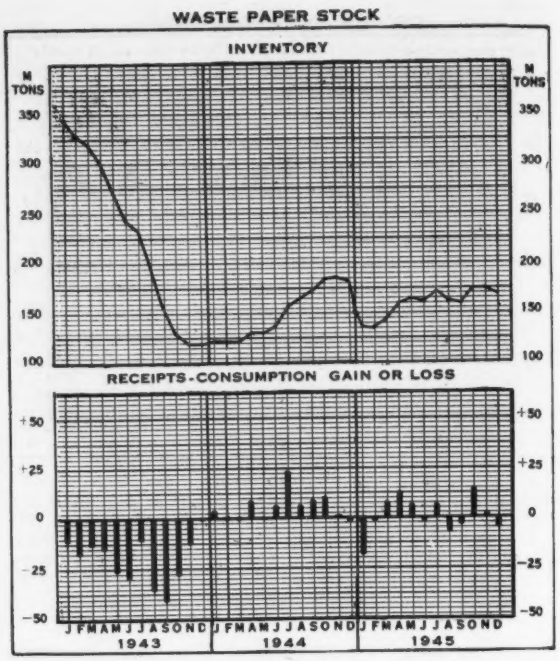


CHART V

Inventories of waste paper reported by identical companies are shown in tons at the month end in the upper section of the chart. The lower division indicates the gains or losses incurred. The scale of this section is enlarged to accommodate small items.

imports became available, resulting in the sharp upturn in the inventory on hand.

Inventories expressed as the number of days of supply at the current rate of consumption, stood at 29 days, prior to the time Swedish imports became available. On January 1, 1946 there was 59 days' supply, an increase of 100%.

Pulp production in this country is primarily dependent upon labor. The sufficiency of the mill capacity has already been demonstrated but there is a deficiency in the number of men cutting pulpwood. This is particularly true in the South where the kraft paperboard mills operate and where over 75% of the domestic kraft pulp is produced to supply the market. Prisoners of war employed in the woods are being withdrawn and returning veterans have failed to fill the needs. Aggressive efforts are being made by the industry and through government agencies to correct this situation. The only alternative is production loss. While the present situation is clouded by uncertainties, the future outlook appears to be more favorable.

There are a number of new pulp and integrated mills under construction and to be built in the United States and Canada. Some of these are scheduled for production during the first half of 1946 and new high records for pulp production will then be made and, if European imports again approach the pre-war level of 15% of our new supply, there should be ample pulp for all purposes.

Waste Paper

While pulp is an essential raw material in most grades of paperboard, waste paper is by far the largest item. During 1944 over 6,800,000 tons of waste paper was consumed in this country and paperboard used 80% of it. The collection and shipment to the

The 1946 Convention of
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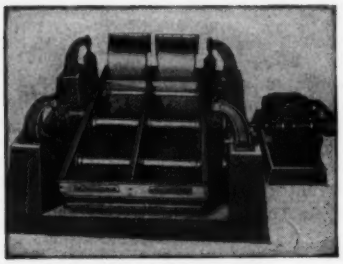

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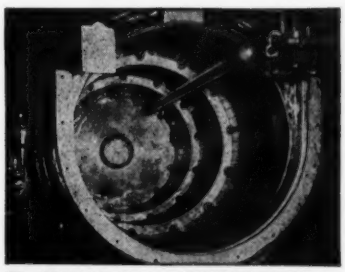

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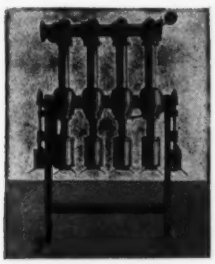

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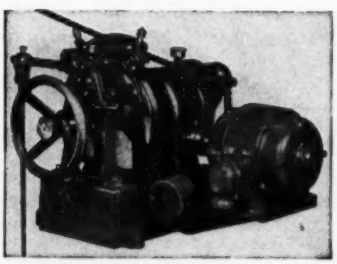

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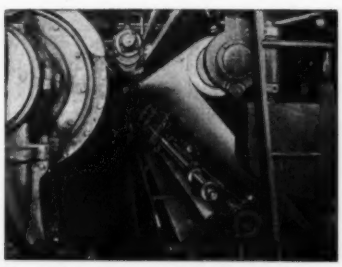

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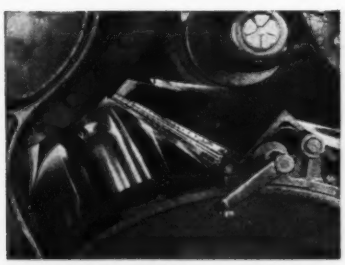

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mills has been and still is of serious concern to all paperboard producers except those making board entirely of pulp. The condition became so threatening in 1943 that a publicity campaign to stimulate collections was started. This was augmented by the WPB Salvage Division lending aid and later by publicity given by the American Newspaper Publishers Association and the Periodical Publishers Association.

It was not until the middle of 1944 that real progress was attained and since then, although inventories have not reached a satisfactory level, receipts and consumption have about balanced each other. Chart No. V shows the inventory level and the gains or losses for the past three years as reported by identical companies.

The average weekly receipts, consumption and inventory of waste paper are as follows:

WASTE PAPER STOCK
Average Weekly Tons, Closing Inventory

Period	Received	Consumed	On Hand Ending
1943 1st Quarter	66,500	69,700	291,500
2nd Quarter	69,700	75,200	220,200
3rd Quarter	66,000	72,700	133,400
4th Quarter	65,100	68,200	93,200
1944 1st Quarter	73,100	72,700	96,100
2nd Quarter	76,300	75,100	110,700
3rd Quarter	74,600	71,200	149,000
4th Quarter	74,200	73,200	159,000
1945 1st Quarter	74,500	75,300	147,700
2nd Quarter	79,000	77,900	163,400
3rd Quarter	70,300	70,500	159,900
4th Quarter	73,500	72,500	170,200

Consumption exceeded receipts throughout 1943 and not until the first quarter of 1944 were receipts sufficient to cover the tonnage required by the mills. For the remainder of the year and through 1945 gains have over-balanced losses, not always in a given period, but as a whole. The monthly changes can be seen by reference to Chart No. V.

The publicity campaign was terminated last September and the widespread publicity conducted by the government and publishers' association was withdrawn. This placed the burden of maintaing collections upon the industry and the efforts of individual mills. To capitalize upon what has been accomplished and sustain the public interest in saving waste papers, industry committees were established in the East and the West and substantial contributions made to support the work. The committees are faced with the loss of the patriotic appeal and curb-side collections, so successful in the past, the general feeling that waste paper is no longer essential, and the low manpower and wage situation confronting the dealers and collectors.

On the other hand, the production of paper of all sorts is increasing and much that was previously shipped overseas is now available for collection and re-use. Although the gain in the pulp supply has lessened the need for substituting waste papers, the demand for paperboard is so great that any drop in collections will be a serious set-back.

The newly appointed committees are planning to stimulate collections in individual localities and gradually broadening the areas. They stress the need for paperboard as an essential factor as reconversion gains momentum. The appeal is made that waste paper is worthless until it is collected and made available to the mill for reprocessing but that it then attains a value amply sufficient to pay for all the effort expended.

The Outlook

The outlook for the near and long term future for the paperboard industry as forecast by many commentators is bright. That this same view is taken by members of the industry is evidenced by the many plans for new construction and plant expansion already under way and contemplated. The war has taught the mills many things. The manpower shortage has developed new labor saving methods. The scarcity of pulp has brought about changes in utilization of waste and the demand for new products has placed added emphasis on the need for research and scientific analysis. Many war-developed specialities and new developments have opened a wide field for the expansion in the use of paperboard products. Exporters have learned to rely upon fiber containers for overseas shipments; airborne shipments are increasing rapidly as experienced pilots and planes become avaliable and frozen and dehydrated foods are calling for an increasing volume of packaging materials.

The building trade, with all its appurtenances, requires a large amount of paperboard, and then comes the home furnishings, with the multitude of items to be packaged before delivery. The automobile industry, with its many sub-assemblies and individually packaged parts, required thousands of tons of paperboard in pre-war years. The effect of this demand yet to come, will gradually grow until full reconversion is accomplished and the anticipated high output of new cars is achieved.

The container industry already is experiencing an unwieldy bank of unfilled orders and the folding box and set-up box plants are well advanced beyond the war-time level.

With return to normal conditions competition with other types of packaging will be keen but paperboard should find itself in an advantageous position when prices and performance are the deciding factors.

When price controls are lifted, the present artificial condition which deprives management of exercising its ability to deal in an open market and meet competition in gaining customers and obtaining orders, will end. At that time there must be an ample supply of pulp and wastepaper and an output of paperboard sufficient to satisfy promptly all customer demand if price inflation is to be avoided. The paperboard industry can look forward with confidence to the future demand for its product and the year of 1946 should bring new high records.

Fabricon Promotes Florio

HOLYOKE, Mass., February 16 — Stephen Florio has been named sales manager of Fabricon Products, Inc., of Detroit, nationally known waxed paper manufacturing concern.

For the past two years, he was New England sales representative for this plant and has been able to continue to make his home in Holyoke. However, this promotion will necessitate his removal to Detroit later in the year. Only two weeks ago, he was elected a director of the Park National Bank.

Florio was born in Leominster, 39 years ago. In 1933, he joined the sales force of the American Tissue Mills and shortly after was named sales manager for the wax paper division of this firm. He left American Tissue two years ago to join the Detroit Wax Paper Company, which since then has been changed to Fabricon Products, Inc.

Fabricon owns eight plants located in Detroit, Cleveland, Pittsburgh, Philadelphia, Long Island City, N. Y., Saugerties, N. Y. and a new one shortly to be started in Bridgeport.

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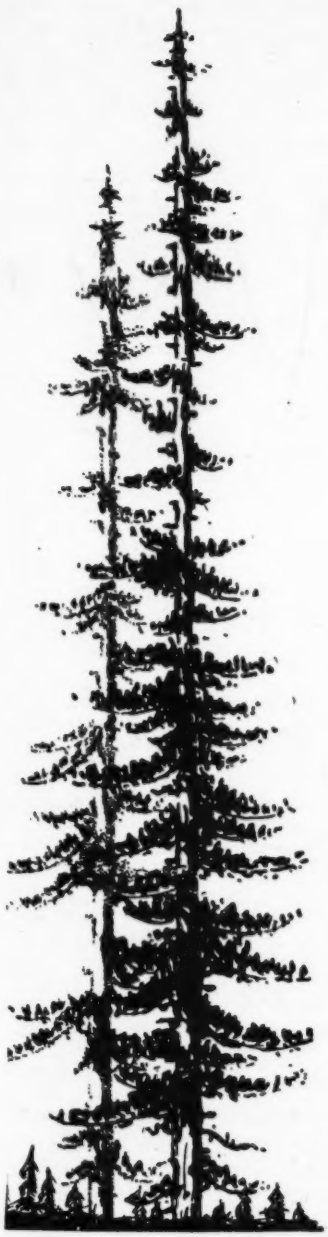

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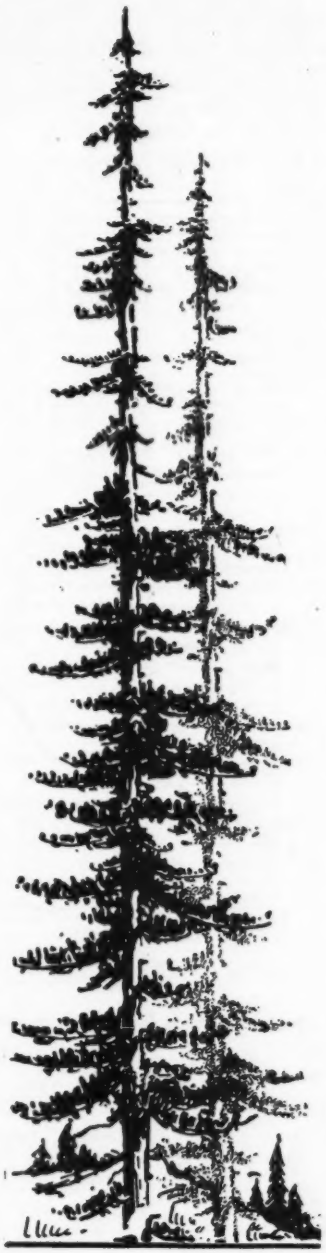

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ESTABLISHED 1916

North American Newsprint Output Increased 8 Per Cent in Year

By G. A. Ware, Assistant Secretary, Newsprint Service Bureau

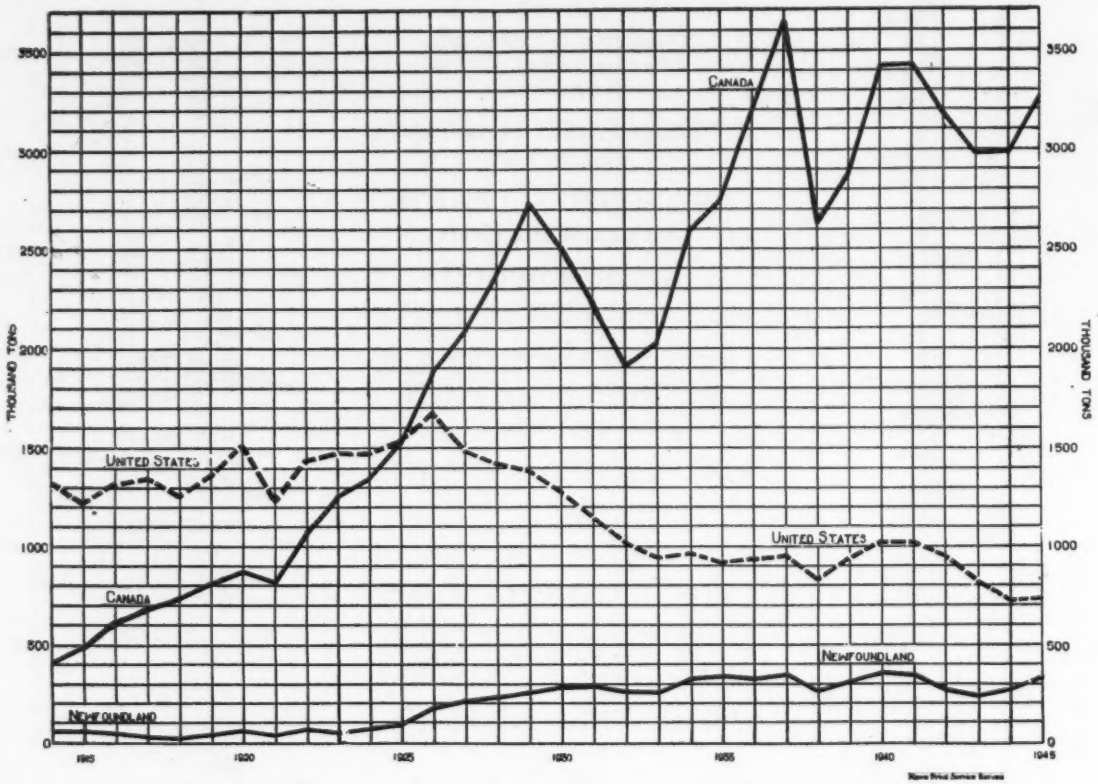
Indexes of activity in many industries exhibit a downward trend due to reconversion to peacetime production and also the prevalence of strikes. However, this was not true of the paper and paperboard industry in North America, the output of which in 1945 amounted to about 22,000,000 tons and was greater than in any other year except 1941. The industry was fortunate in that its reconversion problems were few and production was affected little or not at all by strikes; also the pulp situation was relieved by the imports of Swedish pulp. Due to the sharp curtailment in requirements for container materials for military needs, paperboard production was below that of the preceding year, while production of paper was about 5% above 1944.

Newsprint paper production in North America showed a greater percentage increase than did total paper production. The newsprint statistics are discussed in some detail in the following pages and the charts attached graphically illustrate the long-time trends.

Production Up 332,000 Tons

The 4,316,000 tons of newsprint produced in North America in 1945 was 332,000 tons or 8% more than in 1944 and marked a reversal in the downward trend in production which began in 1942. However, it was still 468,000 tons below the 1940-1941 average and 627,000 tons below the peak production year of 1937.

Canada produced 3,259,000 tons or 75½% of the total, the United States output amounted to 724,000 tons or slightly less than 17%, while the Newfoundland mills turned out 333,000 tons or not quite 8% of the total.



NEWSPRINT PRODUCTION, UNITED STATES, CANADA AND NEWFOUNDLAND, 1914-1945

Production in Canada was 267,000 tons more than the preceding year—an increase of 9%—but was 167,000 tons or 5% below 1941 and 389,000 tons or 11% less than in 1937. United States production of newsprint paper was 4,000 tons or not quite 1% more than in 1944. With the exception of that year it was lower than in any year since the beginning of the century. Production in the United States has been decreasing steadily since 1926, and 1945 production was only 43% of that year's total. Newfoundland's output showed an increase of 60,000 tons or 22% more than a year earlier but was still 18,000 tons or 5% below its record production year of 1940.

Shipments from the mills to all destinations were 38,000 tons less than production during the year with the result that mill stocks were higher by that amount than at the end of December 1944.

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ports of newsprint from Canada in 1945 amounted to 3,059,000 tons or an increase of 259,000 tons over 1944. Of this total 2,534,000 tons or 83% went to the United States and 525,000 tons or 17% was shipped overseas. Exports to the United States were 5% more than in 1944 but was 229,000 tons or 8% below 1941. Shipments to overseas markets were somewhat more than 134,000 tons or 34% greater than in 1944 and were exceeded only in the years 1940, 1937 and 1936.

The following table gives the export statistics for 1935-1945 based on reports of the above-mentioned source:

Newsprint Exports from Canada
(short tons)

	U. S. A.	*Overseas*	*Total*
1945	2,534,000	525,000	3,059,000
1944	2,409,000	391,000	2,800,000
1943	2,545,000	265,000	2,810,000
1942	2,792,000	213,000	3,005,000
1941	2,762,000	500,000	3,262,000
1940	2,586,000	657,000	3,243,000
1939	2,206,000	452,000	2,658,000
1938	1,938,000	486,000	2,424,000
1937	2,899,000	556,000	3,455,000
1936	2,399,000	594,000	2,993,000
1935	2,052,000	523,000	2,575,000
Ave.	2,466,000	469,000	2,935,000

Canadian newsprint in 1945 was shipped to more than 40 countries in all parts of the world and represented 94% of production.

Exports of newsprint from Newfoundland amounted to 316,000 tons in 1945 and 270,000 tons in 1944. Shipments to the United States amounting to 122,000 tons were 22,000 tons more than in 1944 but were 95,000 tons under shipments to that destination in 1941. Exports to overseas points totaled 194,000 tons or an increase of 24,000 tons over 1944 and represented a very substantial comeback from the 83,000 tons figure marking the low point in 1942.

On the basis of reports from United States newsprint manufacturers some 18,000 tons of standard newsprint were exported in 1945 compared with somewhat less than 15,000 tons in 1944.

The table below indicates the extent to which North American newsprint helped to satisfy the demand in other parts of the world:

Overseas Exports from North America
(short tons)

	1945	*1944*	*%*
Canada	525,000	391,000	34 Inc.
Newfoundland	194,000	170,000	14 Inc.
United States	18,000	15,000	20 Inc.
Total	737,000	576,000	28 Inc.

U. S. Imports Larger

Imports of newsprint into the United States in 1945, according to official Washington reports, amounted to 2,666,000 tons and were 175,000 tons greater than in 1944. These imports include 2,524,000 tons* or 95% from Canada, and 142,000 tons or 5% from Newfoundland. Imports from Canada were 129,000 tons or 5% more than in 1944 while those from Newfoundland showed an increase of 46,000 tons or 48% over the previous year.

*Note:—There is a slight lag between official Ottawa and Washington figures.

There were no imports of newsprint from Europe during 1945 and no important quantities have come from that source since 1939 when imports from that continent amounted to 310,000 tons or 12% of total United States imports in that year.

Stocks held by publishers reporting to the A.N.P.A. totaled 266,000 tons on December 31, 1945, and were 76,000 tons below those held a year earlier, and also were lower than at the end of any month since April 1939.

Stocks of North American manufacturers on the same date amounted to 143,000 tons so that stocks held by these two groups totaled 409,000 tons and were 36,000 tons below those held at the end of December 1944.

Inventories of publishers are still controlled by the Civilian Production Administration, and the latest order sets the limit at 30 days consumption in the Eastern and Central States and 50 days in the Southern and Western States based on the average daily allowable consumption for the last six months of 1945.

Apparent Consumption is Higher

Estimates of consumption are difficult to make due to the unknown factor of the quantities held by consumers and the changes therein.

The known factors affecting consumption are imports into the United States of 2,666,000 tons, domestic shipments by United States producers totalling 707,000 tons and a decrease in A.N.P.A. publishers' stocks amounting to 76,000 tons or a total of 3,449,000 tons. The current estimate is that A.N.P.A. publishers' consumption represents 71% of total consumption. If the assumption is made that stocks held by other consumers decreased in that ratio a figure of 3,480,000 tons apparent consumption is arrived at. This is 7% more than in 1944.

Consumption of the reporting newspaper showed an increase of less than 4½% over 1944. While the percentage is lower than that indicated above, it must be remembered that the smaller publishers were not required to reduce consumption to the same extent as the large users and there has also been an increase in use by consumers other than in newspapers. Total and per capita consumption in U. S. 1936-1945 follows:

Newsprint Used

Year	*Population*	*Tons*	*Per Capita*
1936	128,429,000	3,650,000	56.8 lbs.
1937	129,257,000	3,830,000	59.3
1938	130,215,000	3,458,000	53.1
1939	131,878,000	3,550,000	54.1
1940	132,817,000	3,730,000	56.2
1941	133,923,000	3,930,000	58.7
1942	134,633,000	3,800,000	56.4
1943	136,497,000	3,650,000	53.5
1944	138,101,000	3,250,000	47.1
1945	139,621,000	3,480,000	49.8

Per capita consumption of 49.8 pounds in 1945 was higher than in 1944 but was substantially lower than in any year since 1934.

Sunday Papers Show Gain

Leading Sunday newspapers in the United States averaged 70 pages in size in 1945 or a gain of 2 pages over the 1944 average but were considerably below the average for any year since 1933. There was no increase in size in any of the first seven months of 1945 over the corresponding months of 1944, while August showed an increase of 2 pages, September 5 pages and each of the last three months was 6 pages above the same month a year earlier.

Leading daily newspapers last year averaged 22 pages in size or 1 page below 1944. This was the

lowest of any year in the Bureau's records which go back to 1920.

Circulations Show Increase

The yearly compilation of circulations of English language newspapers in the United States made by Editor and Publisher is not yet available.

In the meanwhile this publication has made a cross-section survey based on ABC statements of daily and Sunday newspapers which it estimates represent about two-thirds of the weekday and approximately three-fourths of the Sunday newspaper circulations in the United States. These figures indicate a gain of more than 6% in daily circulations and a gain of 5% in Sunday circulations for the six-month period ending September 30, 1945, over the same period of 1944. The corresponding gains over 1943 were 9½% and 6% respectively. It would appear that some newspapers are still sacrificing advertising revenue in order to satisfy circulation demands.

The demand for newspapers may not be as great in 1946 as last year and circulation promotional activities may be restricted by the quantity of newsprint available, but there is no reason to expect any drastic decline in newspaper circulation totals.

All Advertising Gains 5%

The most striking fact in the advertising field in 1945 is that the only medium of publicity to show a loss compared with 1944 is radio which heretofore had consistently shown substantial gains over preceding years.

A recent article by Dr. L. D. H. Weld appearing in Printers' Ink states that all advertising showed a gain of more than 5% over 1944. Outdoor advertising led the way with a gain of more than 29%, followed by magazines with an increase of a little less than 12%, farm papers gaining nearly 8½%, newspapers approximately 3% and radio showing a decline of three-tenths of 1% under the peak year of 1944. The reason given by Dr. Weld for this slight decline is that all the best listening hours on the leading networks have been sold out for many months.

Newspaper Advertising Up 2%

The Media Records 1945 compilation of newspaper advertising covering 52 major cities in the United States shows a gain of 2% over 1944 but is still somewhat below 1943 and only 1% less than in 1937. It was also 27% under the record year of 1929.

The first half of the year was consistently below the same period of 1944 but each of the last six months showed an increase over the corresponding months of the previous year, ranging from 5% for July and August, to 10% in November. The increase in the latter half of the year was a reflection of the slight improvement in newsprint supply.

Periodical Advertising Gains 15%

Magazine advertising, as reported by Printers' Ink, followed a more consistent trend than newspaper advertising. Every month of 1945 showed a gain over the same month of 1944, ranging from a low of 8% in August to the high of 24% in December. The aggregate for the year was a gain of 15%.

Radio Advertising Declines

Actual gross billings by the four national networks are not yet available, but estimates of gross billings in the first ten months of 1945 indicate a decrease of two-tenths of 1% compared with the preceding year. Available records go back only to 1937 and this is the first year in that period that failed to show a substantial increase.

In the course of time radio has become the greatest competitor of the newspaper in the advertising field, and with the expected development of television and frequency modulation it probably will become an even stronger one.

Outlook

There is little basic change in the general outlook in the News Print Industry from that of a year ago. As pointed out in the annual review at that time, the effects of the war will endure for a long time after the close of hostilities. The indicated demand for every ton of newsprint that the mills can turn out will last for a long time. While there may be increases in tonnage made in certain quarters, there will be a dropping off in other areas. There will be undoubtedly a stringency in the supply of newsprint to meet the overall demand and consumers will do well to get along at present levels with perhaps small increases here and there. So much depends on the supply of raw materials and of labor, but it is anticipated that the supply of both will be slowly increased during the coming year.

PAPER HEADING FOR RECORD YEAR

(Continued from page 43)

on the whole white paper field. Some prominent publishers have made outright purchases of white paper capacity to more readily insure supply. This will further curtail market availability of these papers.

3). A third important factor underlying a strong demand for printing papers in 1946 is reconversion needs. There will be sales campaigns for many new products. There will be sales campaigns for old products that have been out of production during the war and that are coming back soon to fill civilian demands. Mailing lists have become almost worthless during the last few years. Wartime migration of consumers has been pretty extensive and so, many sellers will have to appeal to new customers to sell new and old products. All of this will call for intensive sales promotion work which requires various kinds of business and printing papers.

Printing buyers have not yet started to produce the huge volume of sales literature that will be needed, because of slowness in getting essential materials for the production of many consumer products and delay in determining price levels. When buyers of printing do get into action, printing plant schedules will show a big backlog.

Prospects for 1946

The outlook for the paper industry in 1946 is clearly one of high volume. Full production and scarcity are clearly in prospect for practically all of 1946. Domestic production of all types of paper and board during 1946 will approximate 18,000,000 tons and establish a new high. Production may be limited by inadequate supplies of raw materials but the industry has always used its ingenuity in solving such problems.

Atterbury Brothers, Inc., Elects Sundblad

Folke Sundblad has been elected vice-president of Atterbury Brothers Incorporated, in charge of the Company's Woodpulp Department and is at present located in Sweden. He will cover the Scandinavian and European woodpulp producing fields. Mr. Sundblad has spent his entire business career in the pulp, forestry and lumber industry.

SUPERFINE FILLER

NOW

MAKES BRILLIANT WHITE PAPERS

97

NOW

SAVES BLEACHED SULPHITE COSTS

BRIGHTNESS

TISSUE FILLER ***makes brighter white papers.***

TISSUE FILLER ***saves bleached sulphite costs due to its intensely white color.***

TISSUE FILLER ***produces brighter white papers from ground wood and unbleached sulphite.***

A. M. MEINCKE & SON, INC.

7 SOUTH DEARBORN STREET

CHICAGO 3, ILLINOIS

TUFJEL

NOW

MAKES STRONG PULPS

NOW

GREATER WET STRENGTH

ADDS STRENGTH TO SHORT FIBRES

Definite Results from a unique, Strong Flexible Film

INCREASES

MULLEN-FOLD-TENSILE

A. M. MEINCKE & SON, INC.

7 SOUTH DEARBORN STREET

CHICAGO 3, ILLINOIS

Revolutionary Changes on Way in Canadian Pulp and Paper Industry

By C. L. Sibley

The forestry industries of Canada have concluded another year in which they have faced insistent demand for every foot of wood and every pound of pulp and paper which they could produce. Unlike most other industrial enterprises, however, they have entered the New Year with similar conditions prevailing and with the added advantages of their equipment being in good order, of having no reconversion problems to hamper capacity production, and finally with the additional advantage that large blocks of hydro-electric energy which had been diverted from the mills to war industries—amounting to something like 20% of the total—are once again available for such secondary purposes as raising steam.

The only limiting factor to production in the present year is that of wood supply. Diversion of men from woods operations to the armed forces and to war industries was the greatest physical problems with which the industry was faced during the war, and it is still a hang-over from the war years, still the pivot on which supply in relation to demand will turn. Fortunately, the forces engaged on woods operations during the present cutting season are larger by many thousands than they were last year, and if weather conditions continue to be favorable and conditions after the spring break-up are such as to permit of successful river drives of logs, the tight situation in the supply of pulp and paper now prevailing will ease up in the second half of the year. While government controls on distribution have now been lifted, voluntary rationing in the trade is now the order of the day, calling for goodwill and co-operation between producers and consumers, of which, it is pleasing to note, there is a widespread spirit of acceptance.

The Revolution in Progress

The effects of the war upon the pulp and paper industry of Canada have been revolutionary. Beginning in the early years of this century, and given enormous impetus by the reduction of the American tariff on newsprint in 1909, to be followed a few years later by the removal of all the U. S. duties on this product, the paper industry of Canada specialized on the production of newsprint during the 40 years preceding the outbreak of the second World War. Now another great movement in specialization appears to be under way.

CANADA'S FUTURE PROSPERITY

Depends in a large measure upon the well-being of her forest industries, stated Hon. J. A. Glen, Dominion Minister of Mines and Resources, on a recent inspection tour of the Pulp and Paper Research Institute at McGill University in Montreal.

Mr. Glen is shown here (third from left) in the Institute's offices with, left to right: T. A. McElhanney, director of the Forest Products Laboratory; R. M. Fowler, president of the Canadian Pulp and Paper Association and the Newsprint Association of Canada; Dr. O. Maass, general director of the Research Institute; D. A. Macdonald, acting Dominion Forester; and Dr. W. Boyd Campbell, director of technical research for the Institute.

A Few Important Facts About

GROUNDWOOD BLEACHING

with

BECCO HYDROGEN PEROXIDE

1. Easy to handle.
2. Shipped in Drums or tank cars.
3. Can be stored in tanks and pumped directly to point of use.
4. Actual feeding of peroxide is automatic and fully controlled.
5. It can be diluted with water in any desired proportions.
6. Can be measured and metered as easily as water.
7. Reduces labor and hazards.
8. The most versatile bleaching agent for all types of materials.
9. Can be used for bleaching at any desired pH.
10. Because of its high stability, ease of handling and simplicity of application has therefore become the most important bleaching agent in the huge textile industry.

Avail yourself of Becco's wide experience in bleaching with hydrogen peroxide; of Becco's extensive research data for bleaching groundwood pulp. Learn about Becco's system of feeding chemicals automatically. Now is the time to investigate the use of Becco Hydrogen Peroxide—a water-white liquid—for groundwood bleaching. Write to:

BECCO SALES CORPORATION

AGENTS FOR BUFFALO ELECTRO-CHEMICAL CO., INC.

18 Sawyer Avenue, Buffalo 7, N. Y.

New York Boston Philadelphia Chicago Charlotte

Due to the vast number of new uses found for wood cellulose during the war, Canada is now launching upon another great field of specialization in forestry exploitation, namely, the production of chemical pulp, which promises to rival if not exceed its achievement as the world's greatest producer of newsprint. This new movement is spearheaded by American enterprise, with a number of United States firms famous in the trade pouring scores of millions of dollars into new pulp-making industries in Canada to ensure vastly-augmented supplies of pulp for use in their mills in the United States. The construction of some of their new plants in Canada is already well under way, with the establishment by these same companies of a number of new, model, self-contained towns in regions that but yesterday were wilderness. Details of the more important of these enterprises are given later in this review.

The Newsprint Situation

The situation and the prospects in regard to newsprint production have been set forth in a lengthy survey made by the Newsprint Association of Canada, whose conclusions may be summed up briefly as follows:

1. In the five pre-war years total shipments from Canadian mills averaged 3,003,000 tons a year. In the six war years the average was 3,228,000 tons, an increase of 225,000 tons a year.

2. In 1946, on the basis of estimates for the first six months, total shipments from Canadian mills will be 3,696,000 tons. This new all-time high betters the five-year pre-war average of 693,000 tons, or 23%. It exceeds the wartime average by 468,000 tons, or 15%. From 1945 it is a one-year jump of 437,000 tons.

3. In 1946 most Canadian mills will be endeavoring to meet post-war demand while still under war-restricted wood supply, cut a year or more ago. The estimate of 3,696,000 tons in 1946 is, therefore, a notable demonstration of enterprise and resiliency, it being doubtful if any large industry in the world can add to an extended war effort a better post-war performance.

4. No further estimate of 1946 performance is feasible until new wood figures become available this coming spring. It should be noted, however, that the present estimate of 3,696,000 tons is 86% of total Canadian rated capacity. Maximum production over a period probably could not exceed 96% of rated capacity. Maximum improvement would thus be about 10% of capacity, or about 400,000 tons in a year, to meet obligations in all markets. Even if the maximum could be achieved in the second half of 1946, which is highly doubtful, improvement in the half year could not exceed 200,000 tons.

5. In 1946, as presently estimated, Canadian deliveries to the United States will be 3,000,000 tons, a new all-time high. It is 714,000 tons, or 31%, above the pre-war average. It is a jump, in a single year, of 456,894 tons above the 1945 total from Canada to the United States.

6. As total U. S. supply in 1946 will be less than in 1941, namely 3,870,000 tons as compared with 3,985,000 tons, and as there is a gradual diminishment of tonnage from sources other than Canada, the improvement in total U. S. supply is at a lower rate than the increase in supply from Canada.

7. The only safe conclusion, therefore, as far as consumers in the United States are concerned, is that supply in 1946 as presently estimated provides no safe margin, and justifies no increase over the total rate of orders placed in the final quarter of 1945.

Newsprint Production and Shipments

Production of newsprint by Canadian mills in 1945 totalled 3,259,208 tons and shipments totalled 3,235,419 tons. This meant that the mills operated at 75.8% of capacity for the year, while shipments were at the rate of 75.2% of production capacity. Details of shipments are as follow:

	To U. S. Tons	To Overseas Tons	To Canada Tons
January	184,645	31,760	15,705
February	174,868	26,831	15,521
March	206,370	44,434	16,359
April	215,663	32,237	15,854
May	213,195	35,234	16,338
June	195,514	45,426	17,588
July	216,133	48,655	17,277
August	231,317	56,656	16,141
September	210,770	50,474	15,774
October	240,122	49,365	18,603
November	245,949	34,097	17,959
December	209,570	36,065	17,130
Total	2,544,116	491,054	200,249

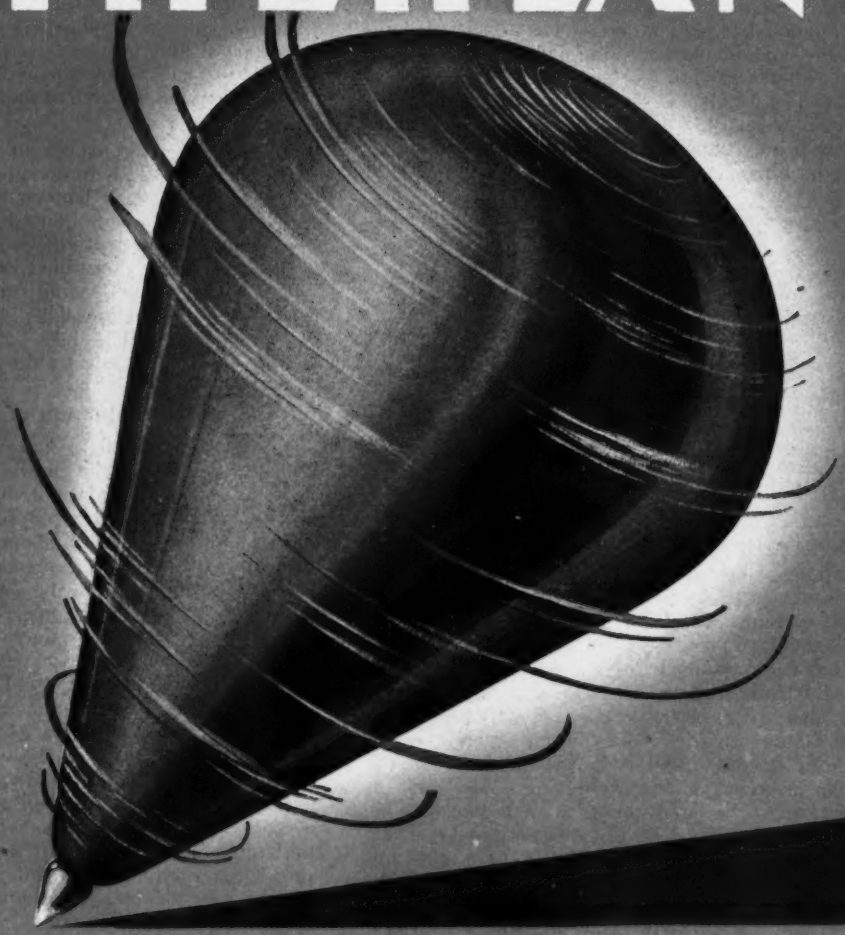
Prices and Profits

Financially the pulp and paper companies are better off at the present time than they have ever been, for without exception they have built up a strong liquid position as a result of the ready marketability of all their products. Under war conditions they were in a different position from most other industries, whose extra profits were diverted into the national treasury by a tax up to 100% on excess war profits. Prior to the war, the pulp and paper companies, which had been over capitalized by promoters in the boom period, had had their capacity extended to a point much in excess of market demand. With unbridled competition rampant, and with their policy dictated by speculative financiers rather than by the operators in the industry, they had been through a strenuous period, and when war broke out a general process of financial reorganization was nearing completion, following the earlier bankruptcy of nearly all the leading companies. In view of the fact that the bondholders and shareholders, over a long period of time, had had little or no return on their investment, the Government, for income tax purposes, put pulp and paper companies into the "depressed industry" class, and deferred for future determination the fixing of the standard profits which each company would be allowed to earn before the excess war profits tax applied.

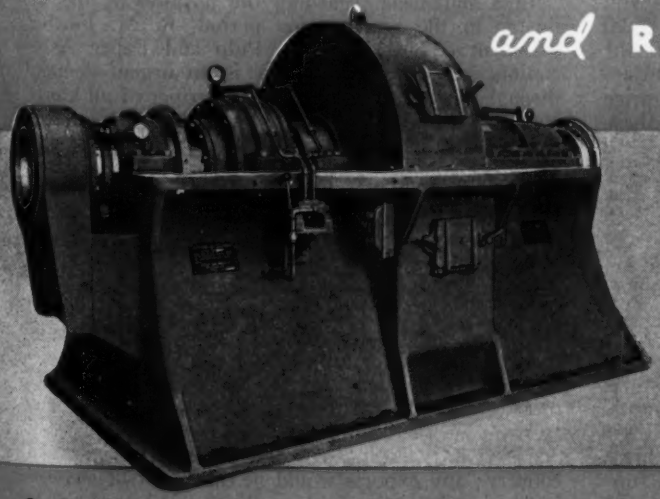
It was not until late in the past year that agreement was reached with the various individual companies as to what would be considered as the standard profits of each. The settlements appear to have been regarded generally throughout the industry as equitable. Shortly after these settlements had been effected further favorable developments were a substantial reduction in the rate of the excess profits tax and acceptance by consumers in the United States, with approval by governmental authorities, of the higher price for newsprint which now prevails, as an offset to steadily mounting costs of production.

Regarding the outlook for profits, as figured on present costs and prices, the Financial Post has published an interesting calculation in which it arrives at the conclusion that the average Canadian newsprint manufacturing company this year will have net profits available for distribution of approximately

SUTHERLAND



Continuous BEATING and REFINING system



FOR EVERY PAPER MAKING FIBER

SUTHERLAND REFINER CORPORATION

TRENTON, NEW JERSEY • *Manufactured in the United States by Valley Iron Works Co., Appleton, Wis.*

SUTHERLAND REFINER LIMITED, 319 DRUMMOND BLDG., MONTREAL, P.Q., *Manufactured in Canada By The John Bertram & Sons Co. Ltd., Dundas, Ontario*

$4.40 per ton of production; that publicly-owned newsprint companies will fully earn their preferred dividends and have a further $10,000,000 available for common shareholders on stocks of listed companies the current market value of which is approximately $140,000,000, or 14 times the prospective 1946 earnings. The estimate is based on operations in 1946 at 86% of capacity, which is the official estimate of the Newsprint Association of Canada. Here is the picture the Financial Post presents on a per ton basis:

OPA price (U. S. funds)	$67.00
Less: freight charges	8.00
Balance	59.00
Add: exchange premium	5.90
Net price (Canadian funds)	64.90
Less: pulpwood costs	23.00
power	6.00
labor	6.50
materials	7.50
depreciation and depletion	5.00
miscellaneous	5.00
Available for interest, taxes, dividends	11.90
Less: interest charges	3.00
taxes	4.50
Available for dividends	4.40

It is pointed out that the estimated costs will vary considerably as between mills and that the effect of taxes on earnings will differ according to the amount fixed as standard profits for the individual companies, but it has been assumed that the profits will average 50% of earnings after depreciation, depletion and interest charges; further, the cost calculation set forth does not allow for any change in the current newsprint price of $67 per ton U. S. funds or in the Canadian premium on U. S. funds.

In regard to the latter point, there is one obvious comment that the Financial Post does not make, which is that if its figuring is correct, then the companies are making no profit whatever on the manufacture of newsprint, but on the contrary are incurring a loss of $1.50 per ton on their manufacturing operations. Their profit, on this showing, might be described as coming entirely from trafficing in exchange, for it depends wholly on selling to the Foreign Exchange Control Coard at a premium the U. S. funds they collect in the course of business, and even at that they are at a disadvantage, for instead of receiving the full benefit of the premium on U. S. funds, namely $5.90 per ton, they benefit only to the extent of $4.40, the difference of $1.50 going to cover loss on manufacturing operations. The fact that even when the price of newsprint was lower than the price on which these calculations are based the companies were able to build themselves into a strong liquid position may be accounted for by their being in the category of a depressed industry, as explained above, and as such being exempt from the full rigors of the excess war profits income tax. The bearing of this on a sound commercial price for newsprint needs no laboring.

Belt Kept Tight on Domestic Usage

Despite the fact that Canada's output of all pulp and paper products is at the greatest peak in history, the belt is being kept tight on the supply for domestic usage. There is great demand for larger domestic supplies of newsprint, but in view of the imperative demands in export markets for this commodity, supplies to domestic publishers are being kept down to the restricted level of the last quarter of 1945, which holds circulation of newspapers down, causes many publications to go short of requirements, and forces mooted new publishing ventures to postpone plans indefinitely. The same situation applies to the magazine field, in which publishers ruefully watch United States publishing concerns pushing circulation campaigns in Canada while themselves unable to do anything of the kind, or even to meet the demands of new subscribers.

In addition, fine papers in the commercial field are in short supply, with no substantial relief in sight, this applying to book papers, high grade bonds and rag-content stock. It is conceded that the many new uses found for paper products is a factor contributing to the shortage in these lines, but the main reason is held to be a pent-up demand for commercial printing. Another product in especially short supply is insulating board, for which their is an insistent demand, sales being limited only by the ability of the mills to produce.

Production of Pulp

Although detailed figures are not yet available, it is officially stated that the production of pulp in 1945 was larger than in 1944, but that as the industry retained a larger quantity for further processing, the exports of pulp were at about the same level. The 1944 figures afford an appreciation of these general statements. In that year the 72 mills manufacturing pulp produced 5,271,137 tons, valued at $211,041,412, as compared with a production of 3,667,789 tons in 1938, the last full peace year. Of the 1944 total, 3,652,836 tons, valued at $98,114,072, was produced by combined pulp and paper mills for their own use in paper making. Close to 26.7% of the total pulp production was for export; the remainder, about 4% of total production, was made for sale in Canada. The exports of wood pulp in 1945 exceeded a value of $100,000,000, by far the largest volume going to the United States, with the United Kingdom the next considerable purchaser. Total exports were roughly 470,000 tons of bleached sulphite, 600,000 tons of unbleached sulphite, 190,000 tons of sulphate pulp and 300,000 tons of groundwood. During the war years Canada supplied 70% of the pulp needs of the United Kingdom and maintained shipments to the United States at a volume nearly double that of the pre-war level.

In a statement regarding the position of the industry in the reconversion period, R. M. Fowler, president of the Canadian Pulp and Paper Association, says that today there is an urgent demand throughout the world for pulp and paper of all kinds. Pulp, originally used merely as a substance from which paper could be made, is in increasing demand as a rew material for the fabrication of rayon, plastics, building and packaging materials, and many other products. Regarding the prospects of supply he says: "The main sources of the world lie in the forests of the United States, Scandinavia, Brazil, Russia and Canada. In the United States pulp and paper consumption far exceeds that country's production of pulpwood. Following the reconstruction period, Scandinavia will naturally turn to filling large demands in European countries. No extensive development of the industry in Brazil appears imminent. Any increase in the pulp and paper production of the Soviet Union could easily be absorbed within that country; any exports would be the result of government planning to provide exchange. While the situation in that country is not clear, the total tonnage involved is a very small percentage of world supply.

Frozen Assets

It is estimated that the U. S. frozen food business will reach a volume close to one billion pounds this year . . . and the dollar predictions of slide-rule optimists are propelled as high as eleven billions by 1950.

Whatever the future holds for this new industry — the business was unimportant as recently as 1930 — the whole thing will thaw without paper and the printed advertising that freezes the attention and interest of the public.

"Paper Makers to America" — from laboratories to paper machines — is determined to keep abreast of America's new industries, to provide the quality papers demanded by the new merchandisers of new things.

For better impressions and better visual selling, specify Mead Papers of the Mead, Dill & Collins, and Wheelwright lines . . . "the best buy in paper today."

★★★ *Mead offers a completely diversified line of papers in colors, substances, and surfaces for every printed use, including such famous grades as Mead Bond; Moistrite Bond and Offset; Process Plate; Wheelwright Bristols and Indexes; D & C Black & White; Printflex; Canterbury Text; and De & Se Tints.*

MEAD papers
ESTABLISHED 1846

THE MEAD CORPORATION • "PAPER MAKERS TO AMERICA"

BONDS OF THE U. S. A.—*Still the Best Buy in Paper Today!*

THE MEAD SALES COMPANY, 230 PARK AVENUE, NEW YORK 17 · SALES OFFICES: MEAD, DILL & COLLINS, AND WHEELWRIGHT PAPERS · PHILADELPHIA · BOSTON · CHICAGO · DAYTON

Thus it is apparent that, at any rate for some time to come, the task of supplying a major portion of world pulp, as well as of world paper, exports, must fall on the Canadian industry."

American manufacturers of paper products are apparently of the same opinion, as is shown at the present time by the unprecedented activity of American firms in seeking out in Canada areas of pulpwood supply and suitable mill sites with contiguous water power, for the manufacture of pulp.

Expansion and New Developments

Prospects for manufacturers of machinery and other equipment for pulp and paper mills, and also for manufacturers of electrical equipment for the allied hydro-electric enterprises on which the industry wholly depends for power, were never so bright as now. Practically all the pulp and paper companies have individual programs for meeting the demands of deferred maintenance and for modernization of equipment in the interest of more efficient operation, of expansion of existing facilities, and for adding new lines in order to diversify their production.

As regards the development of new pulp and paper enterprises, it is notable that there have been no announcements of plans for the establishment of any new mills for the manufacture of newsprint, although there has been some talk of the possible construction of one new mill in British Columbia to meet expanding markets in the Pacific Coast area of the continent and possible new calls for newsprint from China and the Orient generally, where exceptional opportunities may present themselves by the time another newsprint mill could come into operation.

Such new enterprises as have been announced have to do with the establishment of new mills for the manufacture of chemical pulp, and of these there never have been so many as now. Largely these new ventures center in the vast strands of spruce, balsam and jackpine which pock the rugged hills and valleys of many parts of Ontario's northland and especially on and back of the north shore of Lake Superior whose difficult terrain led the lumber barons of the 1800's to pass over its timber riches in favor of the Michigan and Minnesota forests. In this particular section of Canada's northland five plants, with an estimated annual capacity of 300,000 tons of pulp, mostly sulphate, are definitely under way, and when they come into operation they will increase the Dominion's output of that particular form of pulp from 479,000 tons annually to 770,000 tons. This is only a beginning, for according to Ontario papers other ventures are being planned for the regions indicated, involving with those now under way a newspaper estimate of a total expenditure of around $100,000,000. Most of these new ventures are sponsored by wealthy American pulp and paper companies.

The other part of Canada conspicuous for new pulp and paper enterprises is British Columbia, where new developments entailing expenditures totalling at least $25,000,000 have been announced.

Below is a list of the more important new developments in the industry throughout Canada.

Expansion and Improvements

The Marathon Corporation, of Rothschild, Wis., through a wholly-owned subsidiary, Marathon Paper Mills of Canada Limited, is constructing a sulphate pulp mill and townsite at Marathon, Ont., on the north shore of Lake Superior. When completed the project is expected to cost approximately $17,500,000. About half of this amount has already been expended. The capacity of the mill will be 300 tons of bleached sulphate daily, and it is expected that shipments to the parent plant in the United States will begin during the present year. The plan includes a self-contained town of model homes, replete with hotel, theatre, dance hall, bowling alleys, swimming pool, department store, and so on.

The Kimberly-Clark Corporation, of Neenah, Wis., through a wholly-owned subsidiary, Long Lac Pulp and Paper Company, is spending $15,000,000 on a project similar to that of Marathon, with a townsite yet to be named, near Schreiber, on the north shore of Lake Superior. The mill will have a capacity of 250 tons daily of sulphate pulp suitable for book paper and crepe wadding products. The mill operations are expected to begin in 1948. Linked with this project is a power development by the Ontario Hydro-Electric Commission, entailing an expenditure of some $8,500,000 on a power plant and $1,500,000 for a transmission line, which will supply Kimberly-Clark with 15,000 h.p. of primary power for the mill. Kimberly-Clark is already well established in Canada. The Spruce Falls Power and Paper Company at Kapuskasing, Ont., is jointly owned by this company and the New York Times. The capacity at this plant has recently been increased beyond the previous rated capacity of 550 tons of newsprint daily. Expenditures of around one million dollars have been made to expand the plant. In adjoining premises Kimberly-Clark uses pulp slushed to it from the pulping plant of the Spruce Falls Company to make creped wadding to be shipped in the form of "hard rolls" to the converting plant of the International Cellucotton Products Company at Niagara Falls for conversion into kleenex for Canada and overseas markets.

Another large development on the north shore of Lake Superior is that of the Brompton Pulp and Paper Company, of Montreal, which is spending some $10,000,000 fitting out the abandoned Lake Sulphite plant at Red Rock, Ont., on which work was begun several years ago. Originally the Brompton Company planned to produce sulphate pulp, but owing to the trend in the marketing situation this was changed to the production of kraft linerboard and shipping case materials, which carries the production far beyond the early stage of the manufacture of pulp and expands to a considerable extent the margin of profit on the output. The mill will have a capacity of some 250 tons daily. The Brompton Company is also spending some $90,000 on extensions and improvements to its newsprint mill at Bromptonville, Que.

The Kalamazoo Vegetable Parchment Company, of Kalamazoo, Mich., is breathing new life into the ghost town of Espanola, Ont., on the north shore of Lake Huron, where it is spending $10,000,000 on the once-idle newsprint and groundwood mill constructed by the Spanish River Pulp and Paper Company, later the property of the Abitibi Power and Paper Company. It is likely that a mill of 200 tons capacity daily will be in production this year.

The Ontario Paper Company, of Thorold, Ont., owned by the Chicago Tribune interests, is pending several million dollars expanding and reconditioning its mills and opening up new pulpwood cutting camps in the area north of Lake Superior. The Company's subsidiary, Quebec North Shore Paper Company, is also spending $2,000,000 to $3,000,000 in additions and improvements to its huge newsprint plant at Baie Comeau, Que., one of the most modern newsprint

You Get a Complete *Selection* of

RIVING SURFACES

in

MANHATTAN

RUBBER TRANSMISSION BELTS

Manhattan offers a complete range of special surfaces on the driving side of transmission belts to meet all the needs of industry. These are all available in Manhattan's patented Compensated Belt with ply-stresses equalized.

TYLE H - HYCOE DRIVING SURFACE -

est low-tension operating surface available for general service. The accompanying graphs and list of 7 advantages show how the Manhattan Hycoe urface contributes to belt, bearing, and power economy.

Advantages

1. Less bearing, shafting, and hanger troubles
2. Operations less affected by atmospheric conditions
3. Higher overload capacity or margin of safety
4. Less wear on pulley side
5. Can be dressed without injury to the belt
6. High production efficiency
7. Material reduction in belting costs

TYLE F - FRICTION SURFACE -

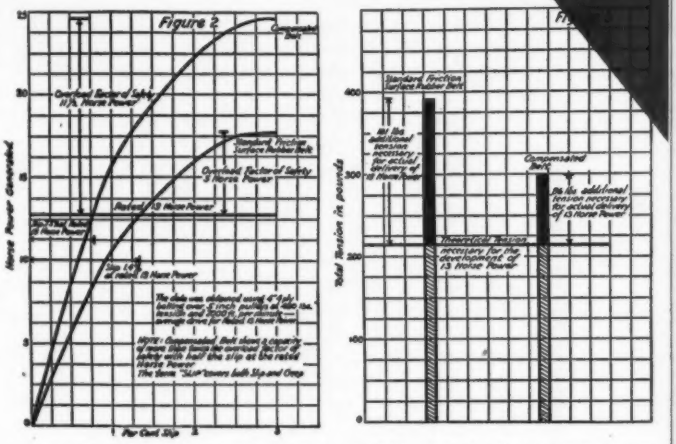
esigned for heavy drives where a slight amount of starting-slip only is not etrimental. Also practical in extremely dusty surroundings or where there e chips, grit, or other foreign substances present.

TYLE B - BAREBACK SURFACE -

ntreated duck surface for drives where slip is necessary, as on the various ake-ups on rolling operations, loom winding, paper take-up machines and n automatic stops and shifter drives.

TYLE BB - BAREBACK BOTH SIDES -

esigned for special conditions where slip is necesry on both sides, as for feed belts on tractor and mall steam saw mills.



Figs. 2 and 3—Show the performance characteristics of Condor Compensated Belt with Hycoe Surface on pulley side compared with those of standard rubber belt.

CONDOR COMPENSATED BELT (Manhattan's patented belt with Equalized Ply Stresses is furnished with Style H Surface, unless otherwise specified.

CONDOR STANDARD and other **BELTS** are made with Style F Surface regularly.

CONDOR WHIPCORD ENDLESS BELTS are made with Style F Surface, unless otherwise specified.

Manhattan also makes *Non-Spark, Oil-Proof* and Acid-Proof belts—For complete service from a single source. **USE MANHATTAN BELTING.**

Manhattan belts will be made in the red color when again possible.

RAYBESTOS-MANHATTAN, IN

MANHATTAN RUBBER DIVISION

EXECUTIVE OFFICES AND FACTORIES PASSAIC, NEW JERSE

mills in Canada, and the one from which the New York Daily News gets its paper supply. One effect of the improvements here will be to increase the capacity of the plant by 10,000 tons of sulphite pulp per annum.

The Great Lakes Paper Company Limited, has a program entailing an expenditure of $300,000 in improving its pulp drying facilities and expanding its warehouse and docks at Fort William, Ont., while at Dryden, in north-western Ontario, the Dryden Paper Company, of Montreal, has recently completed a new recovery plant which adds substantially to the efficient operation of its sulphate pulp and kraft paper plant.

The Provincial Paper Company, of Toronto, as part of a progressive postwar program, has initiated a new development in Canadian paper making at its plant at Port Arthur, Ont., namely the installation of a unit for the new process for making "slick" paper for books and magazines. Known as the Consolidated process, it applies a coating of clay or other pigment to both sides of the paper in one machine operation. It is said to provide a much better printing surface than the old process whereby paper required coatings in two separate operations.

The Minnesota and Ontario Paper Company, whose operations on both sides of the border (International Falls, Minn., and Fort Frances, Ont.) are dovetailed, recently announced plans, with an expenditure exceeding $6,000,000, for the modernization and expansion of the facilities of the organization. The program includes the production of new products as well as improvement to present products, also a new Insulite manufacturing machine, increasing capacity by 40%. There will also be a new research laboratory, additional equipment for grinding wood and manufacturing paper, a new plant for bleaching 100 tons of kraft paper daily and another new plant for bleaching 75 tons of groundwood daily. Also there will be a new plant for filtration of the huge quantities of water used in making paper. Other features are mechanical equipment to ensure maximum utilization of by-products, additional structures for housing employees, and additional machines for preparing and grinding pulpwood and manufacturing paper.

Consolidated Paper Corporation of Montreal, one of Canada's leading producers of newsprint, kraft paper, kraft pulp and sulphite pulp, made some $2,000,000 commitments for capital outlays early in 1945, and has been carrying on an active program of research work with a view to development of new products and further diversification of output. While no details have been revealed, it is known that the company plans considerable widening of its production activities as soon as adequate construction labor and equipment materials are available.

Howard Smith Paper Mills Limited, of Montreal, have a large plant expansion and development program to be put under way as soon as men and materials are available. During the past year the company brought a new mill into operation at Cornwall, Ont., as a pilot plant, but recently it has begun operation on a commercial basis in the production of a new plastic sheet made from lignin taken from waste sulphite liquor and developed by its own research staff, for use in the fabrication of radio panels and in the construction industries. It is claimed to have high impact resistance and to be much stronger and superior in other ways to phenolic panels, the materials in the manufacture of which are somewhat similar. This marks the first venture of a Canadian pulp and paper company into the plastic field, although other leading companies in the industry are experimenting with a view to diversifying their products.

The Brown Corporation, of Quebec, wholly-owned subsidiary of the Brown Company, of Berlin, N. H., is reported to have work proceeding now on modernization and expansion of its mills at La Tuque, Que., which will entail an expenditure of about $3,000,000. Present capacity of the mills is 840,000 lbs. per day of bleached and unbleached kraft and specialty pulps.

The Bathurst Power and Paper Company Limited, of Bathurst, N. B., manufacturers of kraft liner and corrugating board, box board, and sulphite, sulphate and mechanical pulp, is developing a research department to perfect a number of new products which it is contemplated to add to the output. The company was organized originally for the production of newsprint, but gradually became a leading producer of kraft products. In January, 1944, it was still operating a newsprint machine, but at that time, on instruction of the Wartime Prices and Trade Board, it discontinued newsprint manufacture in order to increase its output of kraft liner and corrugated boards. The company, over the past two years, has spent considerable amounts in plant improvements, and further expansions are planned to add to the productive capacity.

Price Brothers and Co., of Quebec, large newsprint manufacturers, are engaged on an extensive program of expansion and improvement to their sulphite mill at Riverbend, Que., to produce for sale a prime unbleached sulphite pulp of the highest degree of uniformity and cleanliness. This entails equipment installations to assure adequate cleaning of the wood supply, improvements in acid making and digester cooking equipment, and erection of new buildings and cleaning equipment. Construction of the main part of the extension is expected to be completed this year. At their mill at Kenogami, Que., they are replacing part of their pulp grinding equipment with modern equipment, and are installing nine hydraulic magazine pulp grinders in place of the original three-pocket pulp grinders.

Pacific Mills Limited, of Ocean Falls, B. C., are planning for the expenditure of a considerable sum, including $100,000 for extensions to their subsidiary plant, Canadian Boxes Limited, at Vancouver. But a more important part of the company's immediate program is for an investment of $1,100,000 for the continued expansion of its self-contained community of Ocean Falls, 300 miles north of Vancouver on the beautiful Cousins Inlet, the purpose being to meet the problem common to so many out-of-town Canadian industries, namely, how to attract and hold high caliber labor and staff personnel despite geographical difficulties.

The Canadian International Paper Company has started a $90,000 job of improvement at its groundwood and sulphite pulp mill at Gatineau, where it has an interest in the paperboard plant of the Canadian Masonite Corporation.

Building Products Limited of Montreal, has recently completed a new paper mill at Ville Lasalle, Que., with a capacity of 12,000 tons annually of felt-sand sheathing papers and other building papers. The expenditure was $550,000, with an additional $100,000 for increased storage. The Company, which operates ten plants in Quebec, Ontario, and Manitoba, is spending another $350,000 in improvements to its plants at Hamilton and Pont Rouge.

The Gaspesia Sulphite Company Limited, of Chandler, Que., owned by interests associated with the

Model "E" Undercut showing safety control levers under table, push button controls, and illuminated index tape. (Gear guards removed)

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A NEW Smith & Winchester Undercut Trimmer from the ground up, to meet the exacting requirements of the modern finishing room for a fast, accurate Trimmer, safe in operation, accurate, and capable of high volume production. The Trimmer is one of the most important cogs in the production line of the paper mill. Work spoiled at the trimmer is work nearly completed and the cost of spoilage resulting from inaccurate trimming would be prohibitive. Look to the new Smith & Winchester Model "E" Undercut to completely satisfy your trimming needs. Bulletin giving full particulars mailed on request.

- Heavy one-piece base frame
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- Illuminated index tape
- Gears properly guarded

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Rothermere interests, is installing a fifth digester in its mill, to increase the capacity.

In British Columbia, the Powell River Company, of Powell River, B. C., has large expansion projects under way, involving expenditures of some $13,000,000, including a $2,000,000 waterfront development project which is expected to be completed late this spring. A large expansion of its hydro-electric development is also under way. In addition it has purchased additional important timber rights on Queen Charlotte Islands, "home of big timber," off the northern coast of British Columbia, involving around $1,000,000 and plans the establishment of a large sulphite mill at Powell River. This company was established in 1911 by the late Dr. Dwight F. Brooks and M. J. Scanlon, of Minneapolis, Minn., and although it has since made a public issue of shares, it is stated that the Brooks-Scanlon interests remain the principal owners of the company, which is the largest newsprint manufacturing concern on the Pacific Coast.

Preliminary work is already in progress on a new pulp mill at Port Alberni, on the west coast of Vancouver Island, for the lumber firm of Bloedell, Stewart and Welch Limited, to utilize waste material from the company's sawmilling operations in the area. The planned capacity of this mill is 160 tons of sulphate or bleached pulp per day. This is an especially interesting development, since it involves the installation of hydraulic barkers to handle logs before they go to the sawmill, to allow of an overall saving of wood for pulping purposes, because the edging "waste" going to feed the pulp mill will be ready for pulping without further bark removal. It is explained that, unlike sulphite pulp mills, the plant will use material of any wood species cut by the sawmill, including cedar. Howard A. Simons, of Seattle, who is the consulting engineer in charge of design and construction, has already established his headquarters in Vancouver for the duration of the contract.

Interesting news also comes from Prince George, B. C., which is the funnel through which flows administration and distribution of the vast, raw country that is landlocked north of Britsh Columbia, where stands accessible timber estimated at well over eight billion feet, predominantly spruce, but including also sizeable quantities of Douglas fir, lodgepole pine and other species. It is stated that there are additional reserves of 24 billion feet that would be opened up by a pulp industry. There has been much activity in the lumber industry in this region during the war. As the predominant species of trees are suitable chiefly for pulpwood, considerable investigation has been done in this region looking to its exploitation for pulp making. Both American and Canadian interest have taken part in this investigation, and notably the Eagle Lake Sawmill and Pulp Company of nearby Giscombe, and the report from Fort George now is that a sulphite mill is being planned for Giscombe by W. B. Milner.

The Westminster Paper Company, of New Westminster, B. C., which manufactures a long line of paper specialties, is doubling the capacity of its plant, at a cost of $1,200,000.

The St. Regis Paper Company (Canada) Limited is erecting a new paper plant in Vancouver, and the Sidney Roofing and Paper Company Limited is carrying out a large expansion to its paper and roofing mill at Victoria, B. C.

The British Columbia Pulp and Paper Company, operating pulp mills at Woodfibre and Port Alice, B. C., has recently carried out an extensive modernization of its mills, and is reported to have plans for considerable expansion under consideration.

The Sorg Paper Company, of Middletown, Ohio, has announced that its wholly-owned subsidiary, Sorg Paper Company, Limited, with head office in Vancouver, B. C., and mills at Port Mellon, B. C., is embarking on a program of mill improvements and expansion, entailing expenditures of $1,500,000 during the next three years, to supply pulp for the parent mill at Middletown, as well as to Australian and South American markets; also to manufacture high grade lumber. The improvements will include a modern chemical recovery plant, with a capacity of 150 tons daily of unbleached kraft pulp and 2,000,000 ft. b.m. per month of high grade lumber.

Forest Conservation

The wartime demands on the forest industries, and the literally astounding scope and variety of the new uses discovered for pulp and paper products, have awakened the Canadian public as never before to the value of the huge block of 770,000 square miles of productive forest possessed by this country, and to the further fact that pulp and paper making alone provides the largest manufacturing industry in the Dominion, is one of Canada's main sources of dollar exchange, and is the backbone of the whole national economy, standing as it does in peacetime first in capital invested, in value of production, in employment and in total wages paid.

As a consequence of this awakening, the whole Canadian public for the first time may now be said to be "forest conscious." Extraordinary strides have been made in the war years in the expansion of organizations engaged in, or pressing for, provincial and federal forest conservation policies. Great stress has been laid on an official report on Conservation and Natural Resources in which the annual forest growth in Canada of 14 cubic feet per acre is constrasted with a growth of 28 feet per acre in Scandinavian countries with forest lands not potentially superior to those of Canada. This report states that under simple methods of silviculture "28 feet per acre could easily be surpassed in many parts of Canada."

Another conviction that is being driven home every day is that much more efficient methods of forest protection are imperative, as for years forest pests and fires have been destroying 30% of the total of all the wood cut each year. Contrary to general belief, it has been shown that insect pests and disease are far more destructive in the forests than fire. In view of this showing, the past year has seen the establishment by the federal Government of a Forest Insects Control Board, with far-reaching instructions for prompt action and with extensive research facilities for coping with insect pests. This marks the first entry of the Dominion Government into active work in forest protection, hitherto confined to the provinces which own the forests and to private enterprises.

For some time past experiments in dealing with insect pests have been under way, including ample spraying of insecticides by airplane patrols, but it is now generally recognized that a crusade on a much larger scale is necessary to reduce forest losses, for according to M. J. Fowler, president of the Canadian Pulp and Paper Association, at the present time "a national disaster threatens from the spruce budworm epidemic."

Words and Pictures
for the Young Mill Man

from E. I. du Pont de Nemours & Co. (Inc.)
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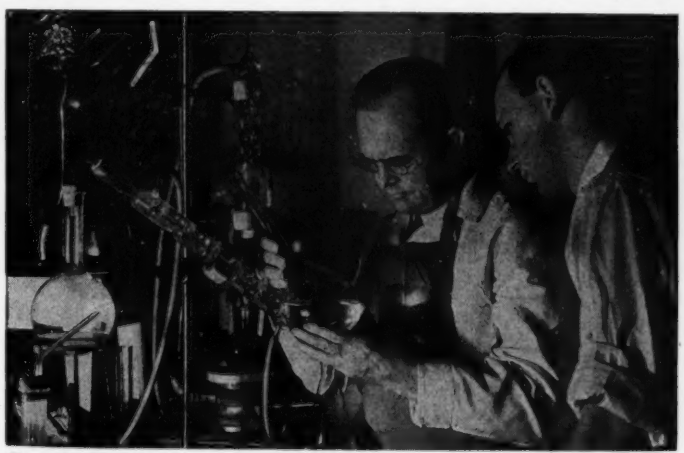
1 YOU'LL HEAR PEOPLE CALL IT A GAME—but it's not. Papermaking is a business, conducted in a serious way for serious stakes. You're out to make good paper at least cost—to give service that wins customers not just for one carload, but for *years.*



3 YOU'VE SEEN EVIDENCE, in your own mill laboratories, that chemistry is important in good papermaking. One of Du Pont's chemicals for papermakers is "Lignasan" bactericide and fungicide. Bled into the system at trouble spots, or added at the beater—about four ounces per ton of dry fiber—"Lignasan" controls slime, keeps the system clean, all the way to the dry cans. 'Most any old-timer can tell you about it, or check with your Du Pont man.

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BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

2 YOU CAN'T CLIMB FAR just on your looks. You must know your job—and know where to get the answers if *you don't* know them. You can often get authoritative, specialized counsel from your suppliers. One good source is Du Pont.

Du Pont Lignasan
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Bactericide and Fungicide
CONTROLS SLIME—PRESERVES PULP

Heavy Wood Pulp Demand Exceeds Notably High 1945 Output

By O. F. Swanson, Gen. Mgr., J. Anderson & Co., and Vice Pres. Pulp & Paper Trading Co.

Momentous events were numerous during 1945, and by far the most important of all was the ending of World War II, which brought peace on earth once more and, let us hope, good will toward all men in the not distant future. Perhaps that is desiring too much, but we do know that in many ways, better days already are here. For this we should all be truly thankful.

After having mentioned the foremost event of all —the termination of the terrible war—it would be next to impossible to place other events of the past year in their proper order, based on their values, since all of them are of tremendous importance. Much has been written about the liberation of enslaved peoples which subject, however, for some reason or another, was accorded less publicity last year than in several previous years. This might be partially due to the fact that each year seems to have pet subjects of its own to write and worry about and, evidently, 1945 was no exception in this connection.

Strenuous efforts were made last year to stress the vital importance of economy—local, national and international—and the grave necessity of preventing inflation. New devices were invented and employed for the purpose of winning a just peace, yet very little was said about resorting to ways and means utilized in the past, and by which, in a large measure, the United States became the great country that it is and has been for years. Right here I think it would be appropriate to emphasize the prime virtue of patience, as application of patience has never been more essential than these days. We should all realize it would be folly to expect complete recuperation from the ravages of a war throughout the world, in a short time following the cessation of hostilities. Patience, coupled with genuine intentions to do everything feasible to heal the wounds must play a leading role with earnest endeavors to accomplish this, in conjunction with a goodly portion of religion.

Many of us underrate the salient value of religion and, as a matter of fact, have little or no intention to practice what we preach. As rightiousness does not appear to be as exalted as in former years, it remains to be seen what effect the suffering of the past war has had on peoples' minds before attempting to guess which way the pendulum of emotions will swing. While there are unsolved and disturbing problems on hand and ahead of us, why not bear in mind that the worst belongs to the past and, having overcome many previous difficulties, there is every reason to believe we will have equally good luck in solving the present ones, and those looming in the offing.

Wood Pulp Industry Progressing

As the woodpulp industry met the challenge of war four years ago, so it is meeting the challenge of peace today and, despite a few obstacles tending to retard full recovery, there seems no doubt the industry will undergo another and most significant readjustment for the better in the not distant future. Virtually every pulp mill, regardless of where located, should be benefitted by the progress made in manufacturing during the war years, and should also share in other benefits accruing to business in general. The demand for wood pulp was well in excess of the supply during 1945 and, judging from present indications, this condition probably will prevail for another year or two, or at any rate until prices of wood pulp are advanced sufficiently to compensate all producers for the increased cost of production, thereby enabling them to obtain a new dollar for an old one on sales of their product.

Production Linked with Prices

While costs of manufacturing pulp have risen in the United States and in Canada to some extent, they have more than doubled on some grades of chemical pulp made abroad. Similar qualities can perhaps still be made and marketed on this side at a reasonable profit, but it is doubted that this can be said about the higher grades of bleached sulphite and bleached sulphate pulp, except possibly by a few mills in the southern and Pacific Coast regions. If prices in the United States eventually are advanced to the levels procurable in other markets, production of wood pulp will increase immediately and, as it is estimated there will be a shortage of approximately 1,000,000 tons of pulp for 1946, it would seem that higher prices would constitute the fundamental solution of achieving the larger production of wood pulp so sorely needed.

Taking the calculated shortage of 1,000,000 tons of chemical pulp for the current year into consideration, and assuming that this additional tonnage could be made available, the paper and board output of the United States could, by careful manufacturing procedure, be increased by about 3,000,000 tons. The tremendous advantage of this larger production to workers, publishers and other consumers, and the whole nation can be readily visualized by everyone except perhaps the "isolationists", of which there may be a few left in the industry. These "isolationists" probably will sanction the proposed action of Swedish pulp producers to minimize their efforts to supply the American market, if not to stay out of it altogether unless the OPA ceilings are raised to the price levels of other world markets, or in close proximity thereof. On the other hand, many others in the industry will deplore it, and freely express the opinion that proper steps should be taken at once to insure continuous and full operation of paper and board mills in the United States by arranging for required supplies of wood pulp.

As an adequate supply of wood pulp is of vital consequence to consumers, as well as the entire population, not only in this country but elsewhere, it is difficult to understand how a 10 to 15% price increase could be anything but beneficial to the whole nation. American paper manufacturers in all likelihood will

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agree with this in due course, if or when their plants are compelled to curtail for lack of wood pulp. There is already a tendency in manufacturing circles on this Continent and abroad to give preference to the manufacture of paper and other finished products, because the price situation favors such a move. That certainly would not aid American converting paper and board mills but, on the contrary, would hurt them. These mills are scattered throughout the country and constitute the main source of livelihood in numerous small towns and communities. Should these mills be obliged to discontinue operations, it would result in havoc and suffering for working people and lead to unemployment.

Demand Exceeds Supply

The demand for wood pulp still exceeds the available supply by fully 10% and it is evident that the United States must count upon a generous supply from Canada and Sweden this year, or from any other country in a position to ship pulp to the American market. A larger tonnage of wood pulp than is at present in view must be provided for American consumption if paper and board mills in the United States are to operate at capacity. America needs imported wood pulp badly, and if we isolate ourselves from pulp sources of other countries which are in a position to supply forward deliveries, the procurable tonnage for our market later in the year may prove to be dangerously negligible. It had been my hope that the OPA could have been prevailed upon to grant the requested price increase, certainly on bleached chemical pulp and other high quality grades, and since the increased prices have been refused, we need not look for as much pulp from abroad as was shipped last year.

U. S. Gets Half of Swedish Pulp

Sweden is reported to have exported 1,450,000 metric tons of wood pulp in 1945, of which the United States received approximately one-half. As this tonnage was shipped here since V-E Day, the rapid arrivals were most welcome to consumers and served to ease the tight pulp situation, temporarily at any rate. Swedish shippers are to be complimented on their excellent performance, of which they can be justly proud, and which probably could not be duplicated by anyone else in the same length of time. Our good northern neighbor, Canada, savior of the converting mills, supplied the United States with approximately 1,100,000 tons of wood pulp in 1945, which was very much appreciated by all in the industry on this side of the border. Thus, the total tonnage supplied to American consumers by the two countries referred to was about 1,800,000 tons last year.

By careful and intelligent use and manipulation thereof, perhaps 4,000,000 tons of paper and board were produced, and even for this country, that is a large tonnage. An insignificant portion of the wood pulp imported was absorbed by the rayon, plastic and staple fiber industries. The total United States consumption of all grades of wood pulp during 1945 is calculated to have reached the formidable figure of 10,800,000 tons, of which 95% was used for the manufacture of paper and board, and the remaining 5% for other commodities. The 17,300,000 tons of paper and board produced in the United States last year consumed virtually the entire supply of wood pulp made available, yet inventories of mills in some few cases increased slightly, but not to a sufficient extent to give them a feeling of security.

More Pulp Used for Textiles

The United States rayon production established a new high record of about 386,000 tons during 1945, or an increase of approximately 10% over 1944. Viscose cupra filament yarn production increased 17%, acetate filament yarn rose 2%, while staple fiber showed no change. High tenacity Viscose yarn for tire manufacture registered the greatest increase, although the estimated world rayon production showed a decline from the 1944 level. There is limited demand in this market for overseas chemical pulp for the manufacture of these commodities since the requirements of such types of pulp can be supplied by American and Canadian pulp producers. On the other hand, rayon rejects (pulp) are in fair demand, as they are suitable as a mixture in furnishes for certain grades of paper, although less so than the regular grades made exclusively for papermaking.

End of Controls an Important Event

An important event in wood pulp during the past year was the relinquishment of Government control of the distribution of pulp, General Preference Order M-93 governing the allocation of available wood pulp, being revoked as of September 30, 1945. This was hailed with both glee and gloom, because many in the industry were well satisfied with the manner in which the WPB handled pulp distribution, whereas there were others who relished the opportunity to return to private operations. We in the sales end were eminently pleased with the admirable efforts of the WPB, and perhaps a majority of us regretted their termination because, for one thing, the little fellows in the paper industry were treated equally as well as the big ones. Had it not been for the WPB there seems no gainsaying the position of the smaller concerns in the industry would have been much more trying. Some of these small paper and board manufacturers have begun to realize this in earnest and therefore recognize the great service rendered by the WPB.

War Isolated Foreign Producers

During the war years very meagre information reached the United States pertaining to the wood pulp industry abroad, and such advices as did seep through usually were contradictory and for that reason were of minor value. Accordingly, as soon as it was feasible after the ending the war in Europe, several members of the wood pulp trade at New York visited the European pulp mills for the purpose of surveying the situation firsthand. The writer spent about eight weeks in Europe on such a mission, visiting Eire, England, Denmark, Norway and Sweden, returning home in November. My trip was a most enjoyable and satisfying experience. Although I did not see any pulp mills in Eire, England or Denmark, I learned quite a bit about other important matters in those countries. Eire had the appearance of a prosperous country, populated with happy people and, as far as I could ascertain, they were well fed, having ample good Irish bacon and many other delicious eatables at their disposal. Thousands of white dwellings were scattered throughout the country against the greenest background imaginable, which presented a wonderfully attractive picture from the air.

England, of course, had not fared so well during

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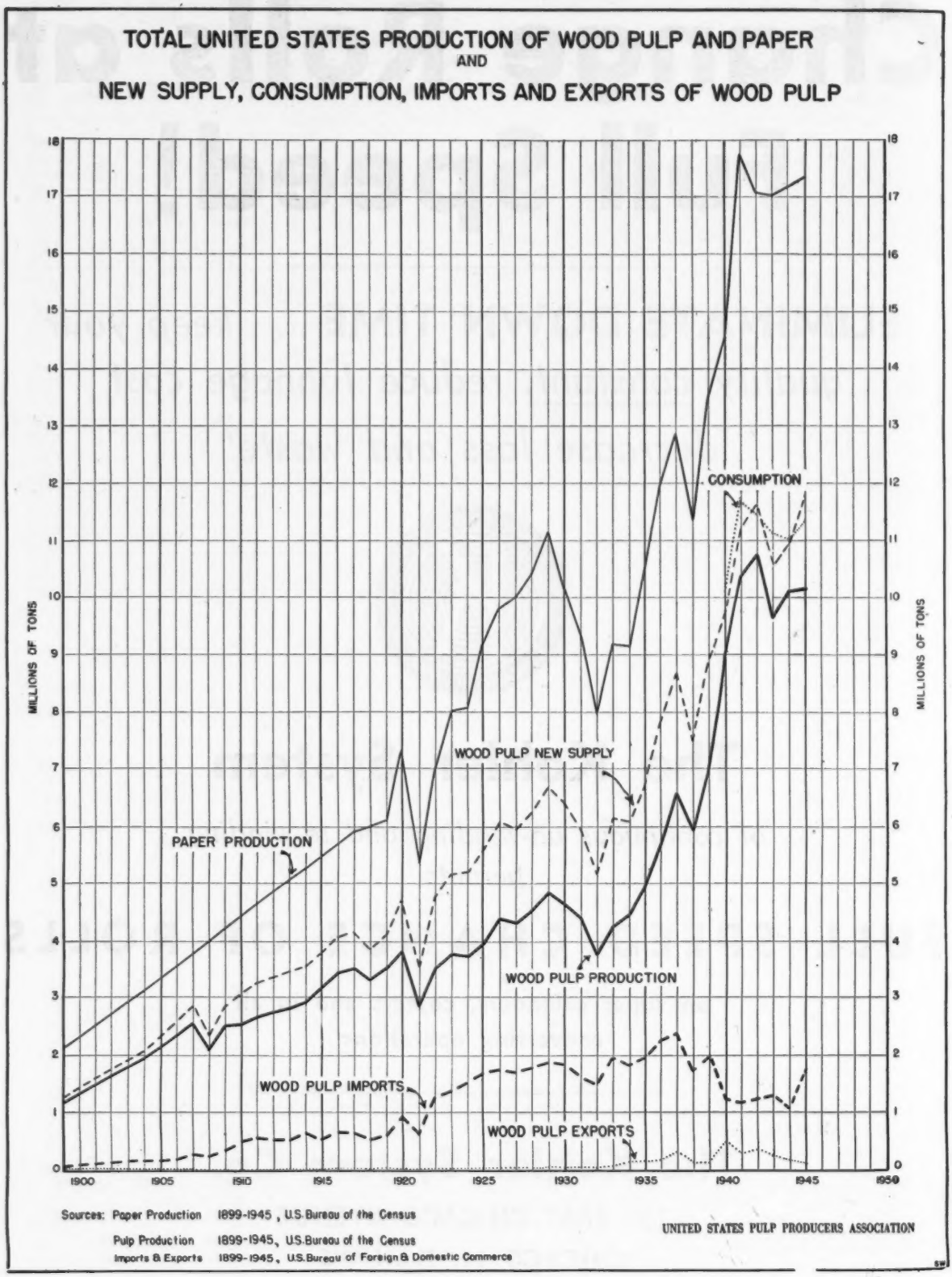
the war, yet in spite of ugly scars in numerous places, London had taken good care of itself and appeared to be as great as ever. The British people are working like Trojans and notwithstanding the terrible ordeal they have experienced, they keep on smiling. They are a remarkable people, and do not complain nor grumble even though everything is not exactly to their liking. The food situation in England could be



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Farrel-Birmingham

improved considerably before equalling English pre-war standards. The good old roast beef of England with Yorkshire pudding was conspicuous by its absence, except in rare instances.

Wood pulp has been regularly and is still supplied British producers of paper and board by Canada. Sweden and the United States also have contributed a sizable tonnage. Denmark looked very much like Eire; both are agricultural countries. The Danish dairy products are of world renown, because of their high standard of quality. The British paper mills compare favorably with the best in the world, as does the quality of their paper.

Conditions in Sweden Good

The rugged and mountainous coast of Sweden was creative of an entirely different picture from the air, and I felt relieved when the pilot finally sat the plane down on a grass-covered airfield outside of Goteborg. There, as in Eire, the food situation was very good, and the whole place had the earmarks of excellent housekeeping. I visited many pulp mills in the vicinity, a majority of which are rather old and some of them had been closed down for good, but there were others equipped with modern machinery and they were running full blast. The wood situation in the south of Sweden precludes explanation of the pulp industry in that territory, although it is believed there is sufficient wood to permit present mills to continue operation for an indefinite period. Subsequently I visited pulp and paper mills all over Sweden which on the whole, were found in good working order. The pulp mills in the central part of the country are still going fairly strong, but Norrland (Northland) where the large and modern pulp mills are located, is geared for high production. The mills I visited there are in better condition than before the war, and most of them are making better pulp than ever before while the others have at least maintained their former standards of quality.

Fuel Situation is Serious

The fuel situation is serious and, as a consequence, dams and power stations are being built for supplying electricity to the mills to make them independent of coal in the future. At present a good deal of wood is used for fuel and this might be a blessing in disguise as the forests are being cleaned up by the removal of saplings, small trees and underbrush. In Stockholm and other cities I saw large stacks of wood in the streets but not the kind that is used for the manufacture of wood pulp. It appeared to be just regular fuel wood, mostly birch or similar species. I traveled hundreds of miles through beautiful forests and came to the conclusion there will always be plenty of wood in Sweden and in Finland, and under the circumstances, the wood pulp industry in those two countries will receive ample consideration by both individuals and the governments.

Many Norwegian Mills in Good Condition

The Norwegian mills visited also are in good shape, and as some of them have installed new equipment during the war, they should be able to compete in the world markets as soon as their pulpwood supply permits. The fuel situation in Norway is not nearly as acute as in Sweden and some of the Norwegian mills seem well supplied with coal but, as intimated, the pulpwood situation is serious and not much improvement in this connection can be expected before next summer. The cost of manufacturing pulp in Norway has increased enormously. Before the war, Norway paid about kr. 25 per ton for English coal of high quality, whereas the price today is kr. 80 and higher for coal of inferior grade.

Cost of Wood and Chemicals High

The price of the small tonnage of pulpwood that is available has more than doubled, which is also the case with chemicals, beltings and other necessities for operating the pulp mills. The Norwegians naturally regret exceedingly their inability to supply pulp to the United States, and are most desirous to resume shipments here at the earliest time possible. Norway has been hard hit by the war, and the German occupation practically bled it white. However, the Norwegians are a sturdy people, who might be down, but never out, and their spirit was never broken, nor even so much as noticeably impaired, although their country came perilously close to being wrecked by the Germans. A small shipment of wood pulp reached the United States recently from Finland, and I am disposed to believe that Finland will resume shipments on a fairly large scale with the opening of Baltic navigation this Spring. It is gratifying to state that most courteous receptions were accorded me in all of the countries visited, and the people were not only very friendly, but eager to be of assistance.

Southern Board Location Still Open

CHARLESTON, S. C., February 25, 1946—An article appearing in the Charleston News & Courier recently indicated that the new $12,000,000 kraft and paper mill of the Southern Paperboard Corporation would be located in Savannah, rather than in Orangeburg county, if the Georgia city can provide sufficient water. State Senator T. B. Bryant, Jr., who represents the company in Orangeburg, told a reporter that the site for the new paper mill had not yet been chosen.

"The company requires 30,000,000 gallons of water daily for its operation," he said, "and Savannah is planning a 50,000,000 gallon expansion of its present waterworks system. If this becomes available to the company, the plant will probably be located in Savannah."

Senator Bryant was quoted as saying, however, that Savannah's water supply comes from artesian wells and that the expansion program would involve an expenditure of approximately $5,000,000. He said that he would be advised when a decision is made and that he wanted to do everything in his power to have the plant located in South Carolina.

"If Savannah can furnish the water," he said, "it would be in the best interests of the company's stockholders for the plant to be erected at Savannah with its deep water facilities and other advantages not available in an inland community."

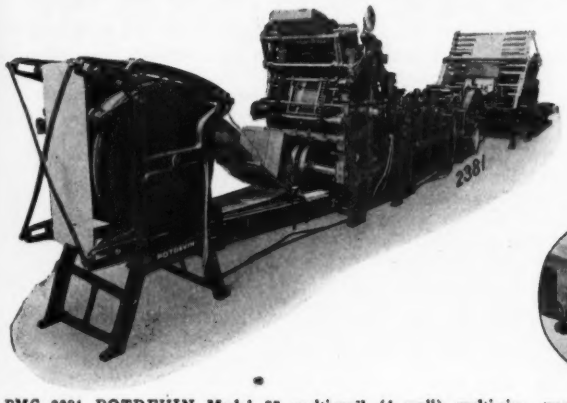
Senator Bryant added that the company was still purchasing timber lands in South Carolina, North Carolina, Georgia and Florida and that he wished to see the pulpwood processed in this state.

May Takes Collins Line

NORTH WILBRAHAM, Mass., February 16—B. J. May, paper mill representative, with offices at 41 Park Row, New York, will now handle the fine writing papers made by Collins Manufacturing Company of this town, in addition to lines made by United Manufacturing Company, of Springfield and Curtis Paper Company, Newark, Del.

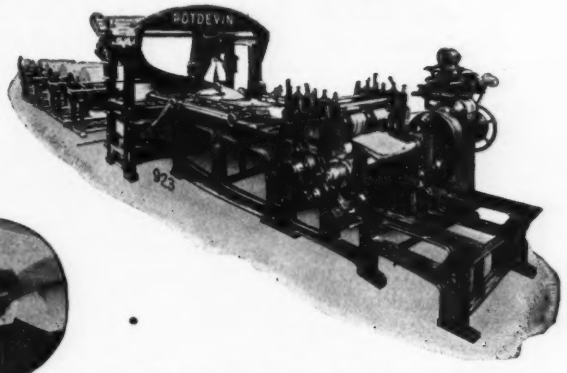
POTDEVIN

MULTIWALL BAG MACHINERY



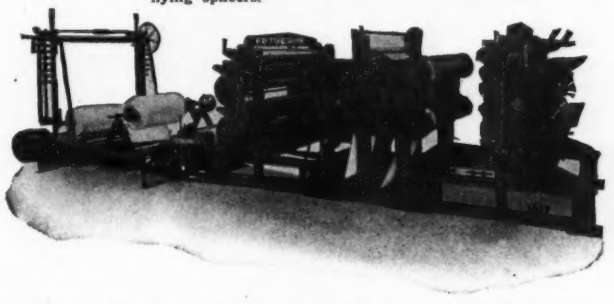
PMC 2381 POTDEVIN Model 87 multi-wall (4 wall) multi-size SOS bag machine for very large self-opening-square bags, equipped with POTDEVIN patented, double differential compensator and "electric eye" register control mechanisms for positioning previously printed outside web. Patented features produce sift-proof carbon-black bags.

PMC 2350 part of valver used on sewed-end bags.

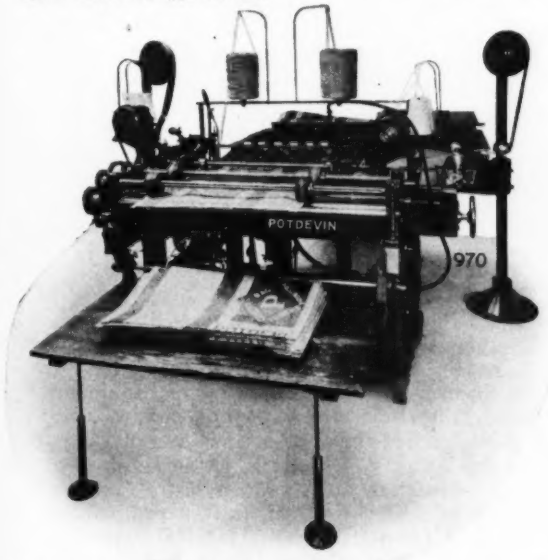


PMC 923 POTDEVIN Model 62 multi-wall cement bag tuber with valve cut-out. Provides for converting pre-printed outer web. Tubes produced hereon are subsequently converted into double-end sewed cement and similar printed multi-wall bags. Tuber is equipped with "flying splicers."

POTDEVIN furnishes bag plants with full equipment for making multi-wall valve-end bags with both ends sewed or both ends pasted, as well as open-mouthed bags with self-opening-square type, sack type or sewed-end type bottoms.



PMC 1619 POTDEVIN Model 463 multi-color multilength oil-ink, rubber plate cement bag paper press, with rewind, for printing web widths up to 74".



PMC 970 POTDEVIN Model 162 sewing machine for sewing selvage on both ends of previously valved multi-wall tubes forming complete cement, fertilizer, chemical, feed and similar bags for bulk products.

POTDEVIN equipment is obtainable for making single-wall bags, "duplex" lined bags, or multi-wall (3, 4, 5 or 6-wall) bags, made entirely of plain (unprinted) paper, or having the outer roll printed during the bag making operation or separately in roll-to-roll form previously, the bag machine being equipped with a patented double-differential compensator and electric eye for full-speed production.

POTDEVIN equips cement bag plants complete with printing press, tuber, valvers, sewers and conveyor beltings ready to operate.

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Kraft Paper Production Rose 50,000 Tons

By Willard J. Dixon, President, Kraft Paper Association

In preparing an annual review such as this, it is, of course, necessary to go back and try to recapture the spirit and point of view of a year ago when the last review was prepared. In doing so this year it is startling to realize that it was only last January that the Germans' last great counter-attack, the Battle of the Bulge, had collapsed. We were in the active midst of bringing the Germans to heel with only the Japs remaining as our enemies. The Japanese surrender took us by surprise. The WPB closed its doors before the end of the year. To have prophesied these events would have resulted in people calling me an extreme optimist. In other words, we had more to be thankful for in 1945 than appeared possible when the year was new.

Even though it was not possible last February to foresee beyond the certainty of a German collapse, there were clues upon which to prepare a forecast. In presenting that forecast, I wrote, "Our best estimate for 1945 production of unbleached kraft paper would be an amount equal to or only slightly higher than the 1944 level.

Mills Operated at 78% of Capacity

Production in 1945 exceeded that of 1944 by 50,000 tons, carrying the year's production back across the 1,500,000 tons level again. The industry operated at 78% of capacity as compared with 74% in the previous year. Only in 1941 and 1942 did the industry produce a larger quantity of unbleached kraft paper.

The amount produced controlled the amount of orders accepted and the tonnages shipped. As a result, the association's figures for new orders and shipments in 1945 did not vary by more than 10,000 tons throughout the year although it has been estimated that there was a demand pressure of 250,000 to 500,000 tons in excess of the actual shipments. In other words, the manufacturers took no more orders than they knew they would be able to fill. In the face of these conditions, manufacturers' stocks remained low, slightly under 30,000 tons in all but one week of the entire year.

Now let us review the conditions under which these 1945 results were accomplished. The entire paper industry, of course, operated under pulp allocations through August 1945. Each manufacturer was told what kind and how much of that kind of paper he could make. No kraft paper manufacturer was permitted to run full.

Imported Pulp Increases Paper Output

Immediately after VE-Day, wood pulp began to be imported from overseas. Some 243,000 tons of unbleached sulphate (kraft) pulp had been received by the end of 1945. Most of this went into kraft paper or into inventories for future use in kraft paper. It was to a large extent responsible for the 6% increase in kraft paper production in the last half of 1945 over the first half.

Although the northern kraft paper manufacturers received most of the imported pulp, almost all of the increase in paper production in the last half of 1945 occurred in the south. This is easily explained. The north substituted imported pulp for the pulp it formerly received from the south while the southern manufacturer was able to keep more of his own pulp for his own paper.

There was considerable doubt among the manufacturers at the start of 1946 that the industry would be able to build up or maintain its labor and raw material supplies during the first half of the year. Later events have shown that these doubts were justified. In the first place there has been one of the worst periods of rainy weather for this time of year in the southern and Middle Atlantic states which has severely handicapped the operations of some of the largest mills in the industry. The prisoners of war upon whom the industry leaned heavily for woods labor are being withdrawn by the government faster than they can be replaced by local labor. Rumors of higher pulpwood prices in the South tend to hold back some wood shipments. The government threatens to distort the raw material problem still further by favoring lumber for building purposes over pulpwood for paper manufacture. These things are tending to reduce the production of kraft paper in the south. Swedish exporters threaten to reduce their shipments of woodpulp unless the OPA price ceilings are raised. This the OPA has recently refused to do. There are examples already of contracts being reduced or cancelled.

Demand for Kraft Paper High

On the other hand, the demand for kraft paper remains high. I foresee the continuation of a demand pressure of anywhere between 250,000 and 500,000 tons above that which the industry can produce during the year. This represents demand for consumption and does not include anything for the inventories of mills, merchants, converters and retail stores whose stocks of kraft paper were lower at the end of 1945 than they were even a year earlier. To replenish these stocks would take another 150,000 tons of kraft paper, but such a return to normal inventories does not appear possible until next year at the earliest.

Outlook for 1946

Although there are new machines in the blueprint stage and even on order, there is little prospect of any new equipment becoming available this year. Therefore, 1946 production must depend upon present equipment.

It is not easy to forecast production for the current year. This production will depend upon the industry's supplies which in turn depend upon many factors unrelated to the demand for kraft paper itself. Among such factors, for instance, is the OPA which through its control over prices can increase or reduce the amount of wood or pulp available to the industry. This and other factors could result in a wide range of forecasts. However, with any realistic approach by OPA to the industry's problems, I personally believe that the kraft paper manufacturers could produce close to 1,600,000 tons of unbleached kraft paper during 1946.

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Papermaking Chemicals in Heavy Demand With Output High in Past Year

Written expressly for the Annual Review Number of the PAPER TRADE JOURNAL

Heavy demand for papermaking chemicals continued throughout 1945. The total output of heavy industrial chemicals approximated the production of 1944. Strikes interrupted the flow of some essential chemicals and shortages of labor continued to be experienced for many months. Considering the deterrent factors, the chemical industry established an excellent production record and the paper and pulp industry was enabled to maintain a high production ratio of 90% of capacity for the year. The outlook for 1946 is bright.

Blanc Fixe

Consumption of blanc fixe was moderate in 1945. Prices were steady with no changes. Quotations for the pulp were $40 per ton, in barrels, at works. The powder was quoted at $60 per ton.

Bleaching Powder

All-over demand for bleaching powder was heavy in 1945. The supply situation was in good balance with the demand. Allocation was removed on February 27. Quotations continued steady at from $2.50 to $3.10 per 100 pounds, in drums, car lots, f.o.b. works.

Casein

Casein consumption during 1945 for all industries was approximately 75,000,000 pounds. Of this quantity, approximately 15,000,000 pounds was domestic and 60,000,000 imported. The paper industry used approximately 25,000,000 pounds. Stocks at the beginning of 1945 were fairly heavy, however, the year ended with stocks at a much lower basis.

The price during the year was firm, although during most of the year Argentine casein was plentiful in supply and was selling at prices that ranged from 16 to 20 cents per pound. Toward the end of the year, Argentina firmed up to the full ceiling of 24 cents. The domestic price was 24 cents throughout the year.

In late November, the market spurted in the Argentine and went up to the full ceiling level. In early December, quotations were made in the Argentine above our ceiling basis. It is reported that Argentina has relatively low stocks and demand from Europe has been heavy. Buenos Aires feels that the demand in 1946 will be a lot heavier than the supply and, therefore, they expect to hold their casein for higher prices. If American consumers cannot get casein there will be a tendency to raise the present ceiling. It is felt that if the ceiling is raised, domestic production in 1946 will be a lot larger and this in time will help to level off prices. It is generally believed that casein will be tight for at least the first half of 1946 and possibly throughout the year.

Caustic Soda

Heavy demand for caustic soda created a tight market at the opening of 1945. Despite high production, the market continued tight, with the flake form scarce. Shipments were delayed by strikes and by lack of labor. A short supply in the dry grades existed at the close of the year. Quotations were $2.30 per 100 pounds on the solid, and $2.70 per 100 pounds on flake and ground, in drums, car lots, f.o.b. works.

China Clay

Consumption of china clay during 1945, particularly during the last half of the year increased. Demand, as the year ended, was greater than the supply. Prices remained unchanged at $7.50 to $10.00 for the filler grades and $12.00 to $20.00 for the coating grades f.o.b. mines. Quotations on imported English clay ranged from $14.00 to $25.00 per ton (long basis) f.o.b. port of entry.

Chlorine

The year opened with high production, a heavy all-over demand and the market tight Output in January rose to 193,953 tons. In September the paper industry was allocated 46,284 tons. Labor difficulties in September created a rather tight supply situation. In that month the brightness restrictions of paper attained by the use of chlorine was revoked, the CPA advisory committee being retained. Supply improved in November. Production was gaining and the market tight at the end of 1945.

Quotations remained unchanged at $1.75 per 100 pounds, in single unit tank cars, f.o.b. works.

Rosin

On March 1, 1945, the WPB put out Conservation Order. M-387, curtailing the use of rosin to 70% of 1944 usage due to low stock conditions of this commodity here. The stock on hand on April 1, 1945, which was the beginning of the new crop year, was quite low—variously estimated around 400,000 drums. With the shortage of labor, production was kept down to a relatively low level and probably was on a basis of around 1,400,000 drums. Prices of both gum and wood grades were raised during the year to encourage production.

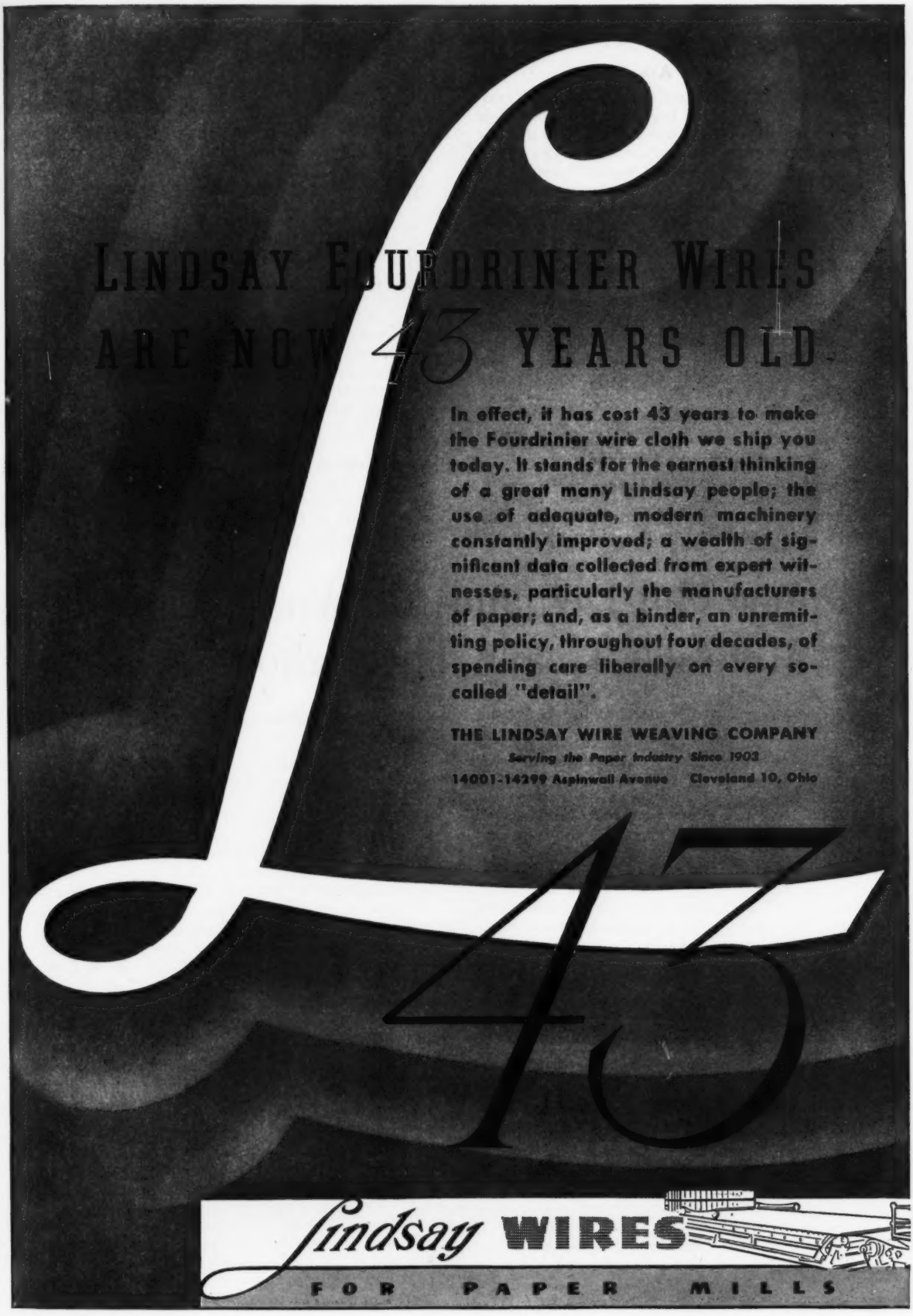
Prices for the G gum grade reached $6.96 Savannah basis, while the FF wood was selling at $4.50 per 100 lbs. f.o.b. producing plant.

As the year ended, stocks of rosin, particularly the gum grades were at a very low point, probably the lowest on record for December. It is generally believed that Conservation Order M-387 will continue until April, 1946 and it may not be removed then.

Production of wood rosin should materially increase in 1946 as at least three new manufacturing units will come into production that year. With better labor conditions in the South, it is quite probable there will be a very material increase in the domestic production so that by the end of 1946, stocks should become plentiful enough for full consumption in all industries.

Salt Cake

At the beginning of the year consumption of salt cake was moderate, with output at 50,879 tons monthly. Moderate demand and steady prices continued throughout the year. Quotations on domestic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salt cake were $15 per ton, in bulk; chrome cake, $16 per ton, in car lots, f.o.b. shipping point.

Soda Ash

In January, 1945, demand for soda ash was heavy and lack of labor delayed bagged lots. Market tight. In February bad weather and the transportation tie-up slowed shipments. Production and stocks rose in March, when output for that month rose near capacity at 218,540 tons. Market continued tight, with shipments of bagged lots slow to the close of the year. Quotations on soda ash were steady as follows: per 100 pounds, car lots; in bulk, $.901 in paper bags, $1.05; and in barrels, $1.35.

Starch

Consumption of starch was moderate in the paper industry. Demand continued very heavy for corn, with large shipments under Lend-Lease. Starch prices were firm and unchanged. Quotations on the pearl grade were $3.72 per 100 pounds; powdered starch at $3.83 per 100 pounds, in bags, car lots, f.o.b. Chicago.

Sulphate of Alumina

Demand for commercial sulphate of alumina during 1945 continued at a very high rate. Stocks in paper mills continued low for this important commodity. It is expected that the supply situation on this product will continue tight into 1946, as it is believed that the paper industry will continue to use sulphate of alumina at a growing rate.

Prices on commercial Alum were firm during the year at from $1.15 to $1.25 per 100 pounds; iron free, $1.75 per 100 pounds, in bags, at works.

Iron Free Sulphate of Alumina continued scarce but with the ending of the war it is expected that supplies of this commodity will increase somewhat. Prices remained firm throughout the whole year.

Sulphur

Consumption of sulphur was high in 1945, the paper industry consuming about its average of 340,000 tons annually, or about 10% of the total sulphur production. Shipments of sulphur from Gulf Coast mines in 1945 were estimated at 3,800,000 long tons, compared with 3,500,000 long tons in 1944, an all-time record year. Stocks on hand at the end of the year were approximately 3,500,000 long tons. Quotations were unchanged. Annual contracts, $16 per long ton, f.o.b. mines; $17.50 per long ton at Gulf Ports.

Talc

Consumption of talc in the paper industry was fair, with some increase after VJ-Day. Quotations remained steady and unchanged. Domestic grades were quoted at from $16 to $21 per ton, at mines; Canadian at $24 per ton.

Paper Mill Demand for Waste Fibrous Materials Heavy Throughout 1945

Written Expressly for the Annual Review Number of the PAPER TRADE JOURNAL

All papermaking grades of waste fibrous materials were in active demand throughout 1945. The paper stock and rag markets continued strong into 1946. Under the very heavy requirements of the government for paper and allied products, a steady demand for raw materials was consistently maintained. Inventories of both paper products and raw materials for their manufacture were held at a low level by the urgent demand for many major grades of finished raw and processed paper. When all-over government cutbacks followed the end of the war in Europe and the Pacific, inventories began to slowly improve. The continued strong demand for paper products prevented any rapid increase in inventories, however and, because of the essential nature of paper products, and the large consumption in the civilian economy, a strong demand with high production is widely forecasted for the greater part of 1946.

Consumption of Waste Paper High

Paper and paperboard mills consumed 6,801,080 tons of waste paper in 1945, compared with 6,859,332 tons in 1944, and with 6,367,854 tons in 1943. The demand was maintained at a high level with consumption in rather close balance with supply. All grades of paper stock were active. With the curtailment in the use of newsprint paper by newspaper publishers, supplies of folded news and mixed paper were seriously short for many months.

Although wood pulp is essential, waste paper is consumed to a larger extent in the manufacture of paperboard than any other material. In 1944 when total consumption was 6,959,332 tons, 80% of this total was consumed by paperboard mills. Mill requirements for waste paper were large and urgent in 1943, and not until the second half of 1944 were receipts at a satisfactory level. Consumption exceeded receipts in 1943, to improve in the first half of 1944. In 1945, inventories further improved to indicate a very favorable outlook for 1946.

Prices of waste paper were firmly maintained by active consumer demand at OPA ceiling levels. Maximum prices on sales to mills on major grades remained unchanged throughout 1945 as follows: No. 1 hard white shavings, 2.87½; folded news, 1.00, and No. 1 mixed paper, .95.

Rag Consumption Off Slightly

Trading in new and old cotton rags was active throughout the year. Consumption of all grades of rags totaled 415,904 tons, compared with 427,837 tons in 1944, and with 425,910 tons in 1943. These figures, compiled by the Department of Commerce, have not been broken down into grades.

With foreign imports entirely out of the market, all available supplies of domestic rags were absorbed by mills. Throughout the greater part of the year, the supply of new cotton cuttings was under mill demand. Supply of new white shirt cuttings and the

(Continued on page 155)

COOPER'S 25 YEARS

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APPA Stages a Full-Scale Convention

Resuming, after interruption caused by war, its annual paper week program, the American Paper and Pulp Association staged its 69th annual convention this week at the Waldorf-Astoria in New York City. The meetings of various affiliated groups in the industry got under way early on Sunday morning, and closed on Friday. The interval was packed with interest for the liberal representation from various interests in the industry which were drawn to New York by the resumption of Paper's big week. Absence of the merchandising interests of the business, as represented by the National Paper Trade Association which is to hold its convention separately at a later date was compensated by the coincidental running of the Chemical Show at the Grand Central Palace. The Technical Association of the Pulp and Paper Industry, as customarily, staged its own convention during the same week, at the Commodore.

At a meeting of the Executive Committee and Board of Governors Wednesday, the following officers were elected: President, Reuben B. Robertson, Champion Paper and Fibre Co.; 1st Vice President, Cola G. Parker, Kimberly-Clark Corp.; Vice Presidents, D. K. Brown, Neenah Paper Co., Hugh J. Chisholm, Oxford Paper Co., R. K. Ferguson, St. Regis Paper Co., P. H. Glatfelter, P. H. Glatfelter Co., J. H. Hinman, International Paper Co., D. S. Leslie, Hammermill Paper Co., David L. Luke, Jr., West Virginia Pulp and Paper Co., R. A. McDonald, Crown Zellerbach Corp., J. L. Madden, Hollingsworth & Whitney Co., Dwight L. Stocker, Michigan Paper Co. of Plainwell, George R. Wallace, Fitchburg Paper Co., R. B. Wolf, Pulp Division, Weyerhaeuser Timber Co. Executive Secretary and Treasurer, E. W. Tinker.

The following report of D. K. Brown, president of the American Paper and Pulp Association was read by Mr. Brown at the annual luncheon of the association on Wednesday:

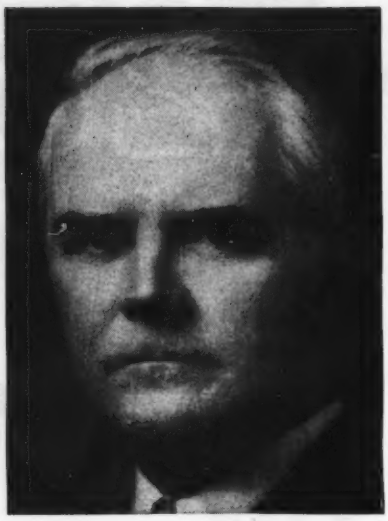
It is with a deep sense of gratitude that I make this report on the activities of the American Paper and Pulp Association during the past year.

First, I am grateful that 1945 saw an end of the war from which our fighting men are fast returning home, to whom and especially to those who made the supreme sacrifice we owe a never-ending debt. Second, I am grateful for the many fine contacts and friendships it has been my privilege to make and enlarge during my term of office.

The American Paper and Pulp Association was organized for the purpose of promoting the welfare of our industry by cooperative means, and it is my belief that both individually and collectively the membership has lived up to this purpose in the highest degree.

The experience of the war period has demonstrated that management can no longer confine itself to the problems of its own company, but that to act with intelligence it must keep informed as to the industry's broad economic and social trends. To do otherwise would be to avoid our direct responsibility if the maintenance of free enterprise, the American system, is our aim.

As I have viewed the work of the American Paper and Pulp Association, of primary importance among its services to the industry is the dissemination of basic information covering our over-all position, from which develops informed thinking with respect to new problems of management that go all the way from labor relations to existing or potential supplies of raw materials and from legislation to international trade agreements, etc.



REUBEN B. ROBERTSON
New President of the APPA

Looking back over the past year and realizing the many ramifications within our industry, it is my belief that the membership was kept informed on all major issues and that with the help of committee members the industry was able to express itself effectively on problems affecting us as a whole.

No financial or other compensation could begin to repay the ability and knowledge that has been voluntarily given to the industry through the various committees and the willing service thereon by executives from both large and small organizations alike has been both encouraging and inspiring.

Aside from the regular standing committees (which have always done a conscientious job), the War Industry Committee—which was born out of the crisis created back during the National Defense program—performed an outstanding service by keeping in close touch with developments both within the industry and government agencies, and it functioned with effect in emergencies affecting the industry's welfare. This Committee passed out of existence in November, but let us not forget the debt of gratitude we owe to the members thereof.

I again want to express thanks to those from our industry who gave so freely of their time and effort to the various government agencies and especially to the organizations that so generously released their key men for long periods of time. These men, under the capable leadership in the Forest Products Bureau, enabled us to meet the many difficult problems in a spirit of fairness to large and small alike.

Need Answers about Shearing Stainless?

Shear Blades?
What tolerances are recommended on blades for shearing E-S Type 304 Stainless? Can we use the same blades on E-S Type 316?

Fine Perforating?
What is the smallest diameter hole that can be accurately punched in 30-gage E-S Type 302 sheet, and what is the minimum spacing that will not tear between perforations?

Clearance for Blanking?
What die clearance should we use for blanking 6-in. circles in No. 7-gage E-S Type 410 plate?

Clean Slitting?
In slitting and drawing small louvres in E-S Type 321 Stainless, the metal sometimes strings across the slit. How can we overcome this?

Die Changes?
Will E-S Type 430 break out when stamped? Can we use the same dies in stamping E-S Type 430 that we use in stamping E-S Type 347?

Anneal to Trim?
After spinning E-S Type 304 bowls, we want the edge soft enough for trimming and corrugating, without a second anneal. Is this possible?

ask Eastern for the answer when Stainless is the question

Questions like these are "duck soup" at Eastern. Many of the answers are given in the big new catalog, "Eastern Stainless Steel Sheets," but if you have a specific question about cutting or shearing Stainless, be sure to ask Eastern...where your inquiry is welcome. JMLCo-E-B1

EASTERN STAINLESS STEEL CORPORATION
BALTIMORE 3, MARYLAND · Distributors' stock available in most areas
CHICAGO · CLEVELAND · DALLAS · DETROIT · LOS ANGELES · NEWARK · PHILADELPHIA

I want to thank the entire membership for their moral and financial support during my term of office and particularly the Divisional Associations who through their Secretaries and representatives on the Board of Governors have given so much help and encouragement. I also want to thank the distributors and consumers of our product for their understanding attitude and acceptance of the many wartime restrictions with which the manufacturers had to comply.

Without presuming to take issue with the proposed continuance of government controls, let us not forget that prices are the safety valves of our economic system and it has never been a good policy to sit on a safety valve. The real motive of some who would retain these controls is to replace our free enterprise system with a controlled economy. This means loss of freedom (to which we submitted to win the war), but we have all seen what happens in other countries where government directs the economic activities of a people, and that is collectivism.

We do not desire monopolistic control in any form and only wish for a fair opportunity with American free labor, free enterprise and free initiative, and we will do our part in building up a real peace-time economy both for ourselves and the world at large.

A year ago, I cautioned the industry against over-expansion without having assurance of a continuing wood supply therefor. The increased interest in fire prevention and replanting of our forest preserves is to be commended, for with the new era of wood utilization for plastics and other uses, together with resumption of heavier weight papers and expanding demand in regular channels, it is just good business and common sense to work for a sustained yield and keep a pace in forestry that is in step with the progress of science in our technical laboratories.

As to the immediate future for our industry, the prospects are that volume of production and consumption will both be large for some time to come. Low inventories must be rebuilt to a reasonable working basis, which together with increased circulation and advertising and new publications already planned will require full operations of present and contemplated equipment.

A study of new machines scheduled for installation during the coming year together with rebuilding of existing machines shows that while the increased capacity of individual companies may be fairly large yet the over-all increase is only a small percentage of present production in any group, probably not more than the growth of our population during the war period.

Many difficult problems still confront us, not the least of which is the proposed reduction in duties authorized by the Reciprocal Trade Agreements Act. An international trade conference is in the offing, and it is reported that industries involved in foreign trade will be given an opportunity to express their views on proposed tariff reductions. The information so splendidly prepared last spring by the Import Committee and Counsel should again be invaluable in presenting our side of the case.

We are one of the country's major industries, and if we are to serve the public welfare and our own economy it behooves us to continue working together so that we may not only be fully advised of trends within our industry but also insure adequate representation and spokesmanship in matters of general concern. By reason of radio, newspaper and other publicity during the war period, the Paper and Pulp Industry is better known and, I believe, better appreciated than ever before. It should be our aim through the Public Relations Committee, the Salesmen's Association and other channels to continue to keep the public well informed of the progress and developments therein.

The Paper and Pulp industry is organized to do the job for you and all it needs is your support. My experience with Divisional Association work, as Chairman of the Finance Committee and as President, has convinced me of the value of organized effort and that the industry's affairs are being handled in an effective and economical manner.

In closing, I want to pay special tribute to the Executive Committee and Board of Governors for their help and guidance through many difficult situations and to the splendid support of our Executive Secretary and his staff.

Industrial Relations Report

"While the pulp and paper industry is the sixth largest in this country it has been almost entirely free of strikes and labor stoppages."

This was the optimistic report made by E. G. Amos, Secretary of the Industrial Relations Committee of the American Pulp and Paper Association at an all-day session of that Committee at the Waldorf-Astoria.

In his report Mr. Amos pointed out that the industry provides steady employment and pays wages comparable to other industries, and that the annual take-home-pay of its employes such that, by and large, it has a group of satisfied workers.

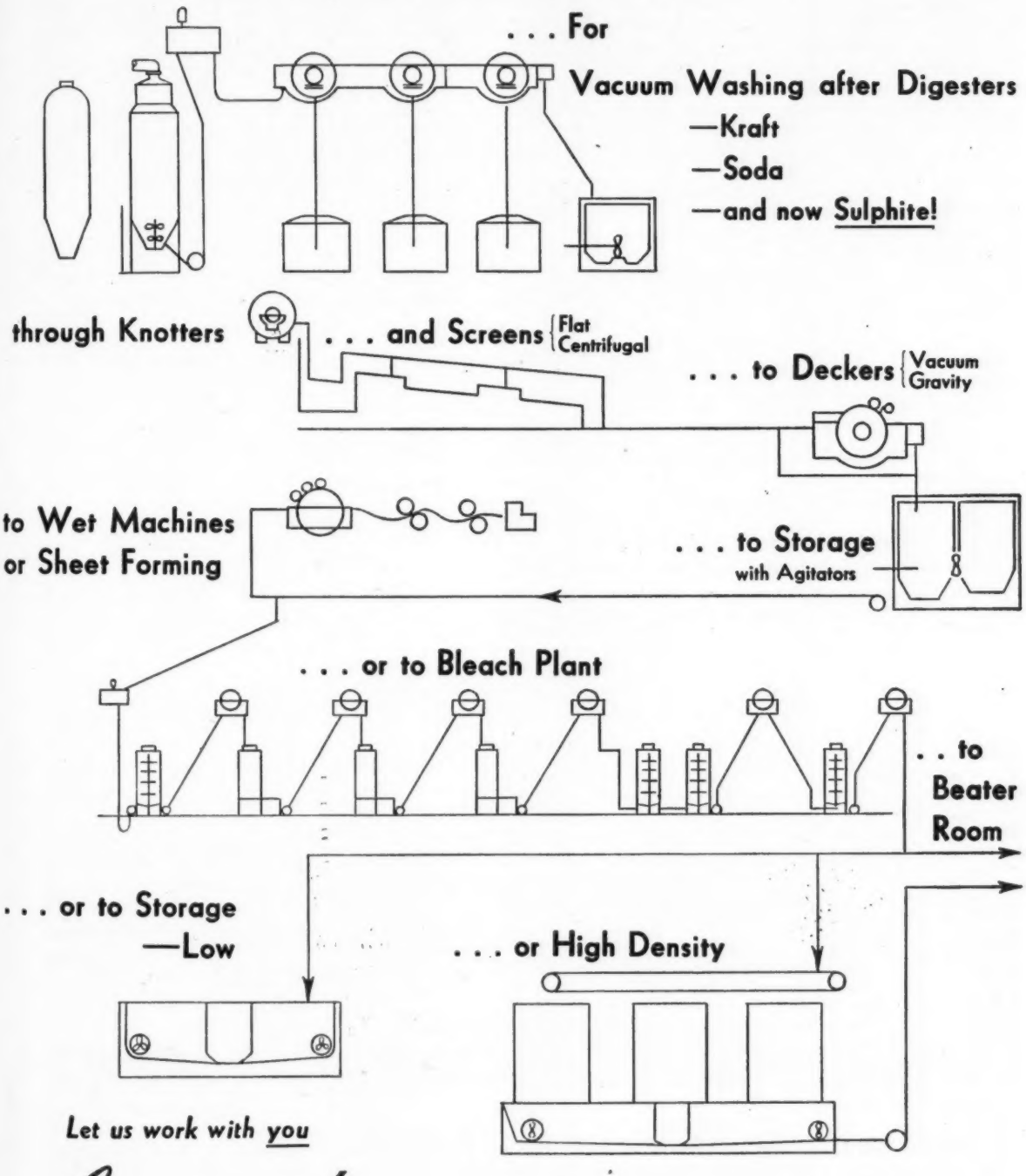
It is true, he said, that wages have increased in some quarters to the point where it requires resourceful management to meet payroll demands as well as rising costs of production material. These costs coupled with OPA ceiling prices put the paper manufacturer in a not too desirable position, and unless price relief is obtained it is not unlikely that some of the higher cost mills will suffer hardships and loss which will add to the present shortage of paper supplies.

The paper and pulp mills of the primary industry are approximately 75% unionized, with 95% of these having contracts with the craft unions of the American Federation of Labor.

E. W. TINKER
Secretary American Paper & Pulp Association

Improved Pulp Mill Equipment

"FROM COOKING TO USE"



Let us work with you

Improved PAPER MACHINERY CORPORATION

NASHUA • NEW HAMPSHIRE

Import Committee Report

"Complete import statistics for 1945 show a striking increase in shipments of dutiable printing paper from Canada, principally due to the Reciprocal Trade Agreement with that country," Warren B. Bullock, Manager of the Import Committee of the American Paper Industry, told the Groundwood Paper Manufacturers Association.

"To what extent war time regulations and inability of Scandinavia to ship paper to this country prevented even greater increases can not be estimated. In 1938, however, imports of printing paper totaled less than 10,000 tons from all countries, but in 1945 the total from Canada alone was 29,680 tons. The duty rate was reduced 40 percent, effective Jan. 1, 1939, but the increase in imports indicates a shift in customer buying not to be accounted for by the reduced duty rate alone.

"In the last year United States newsprint production has been sharply reduced, in some cases due to the shift of former newsprint mills from newsprint to higher grades, but also to the purchase by domestic magazines of mills to guarantee them a supply of printing paper stock. The increased shipments of groundwood paper from Canada may indicate that Canadian mills also are cognizant of the greater profit to be attained by production of printing papers as compared with standard newsprint. To what extent the tendency of American magazine publishers to cut into newsprint supply by buying newsprint mills and shifting them to printing paper production may be extended to Canada in case duty restrictions are removed or lowered still further, can only be determined by future developments."

Forestry Committee Report

Means for promoting the practice of the highest type of forestry management to enable the paper industry to maintain a perpetual supply of the wood needed for its operations was the subject before the Forestry Committee of the American Paper and Pulp Association Monday, February 25 at the Waldorf-Astoria.

Although it was reported that the paper industry has statistics from paper companies owning nearly 12,000,000 acres which is already under scientific management, there is still room for an extension of the reforestation program. In various areas private funds have been applied to the development of forestry sentiment.

A report of an outstanding development in New England was given by Harris A. Reynolds of Boston, Secretary of the Massachusetts Forest and Park Association and secretary of the New England Forestry Foundation.

"The goal of our organization," said Mr. Reynolds, "is to bring all private forest lands in New England under forest management and to eliminate the need for public regulation of private woodlands. The Foundation will not only provide technical assistance to owners of private land at cost, but is acquiring demonstration tracts on which the value of scientific control can be shown."

Paper and Pulp Men Honored by WPB

The following former employees of the Paper and Pulp Division of the War Production Board, will receive certificates, in recognition of their services, from the American Paper and Pulp Association at the annual luncheon of the association to be held on Wednesday: D. C. Everest, Marathon Corp., Rothschild, Wis.; A. G. Wakeman, Kimberly-Clark Corp., Neenah, Wis.; J. R. Kimberly, Kimberly-Clark Corp., Neenah, Wis.; Rex W. Hovey, Oxford Paper Co., New York; Walter D. Wilcox, S. D. Warren Co., Boston, Mass.; Benton R. Cancell, Powell River Paper Co., Vancouver, B. C.; Grant Richardson, Hammermill Paper Co., Erie, Pa.; H. E. Whitaker, Mead Corp., Chillicothe, Ohio; Henry G. Boon, Kimberly-Clark Corp., Neenah, Wis.; C. J. Dynes, Hollingsworth and Whitney Co., Boston, Mass.; James L. Ritchie, U. S. Pulp Producers Ass'n., New York; Allan Hyer, Black-Clawson Co., Hamilton, Ohio; John G. Strange, Institute of Paper Chemistry, Appleton, Wis.; Robert Zaumeyer, Kimberly-Clark Corp., Neenah, Wis.; Lyman A. Beeman, St. Regis Paper Co., New York; L. K. Larson, Pulp Div., Weyerhaeuser Timber Co., New York; Robert H. Evans, Riegel Paper Corp., New York; David Graham, West Virginia Pulp and Paper Co., New York; Geo. V. Johnson, Elof Hansson, Inc., New York; L. B. Norstrand, Westfield River Paper Co., Russell, Mass.; A. B. Hansen, Northern Paper Mills, Green Bay, Wis.; James L. Madden, Hollingsworth & Whitney Co., Boston, Mass.; Curtis M. Hutchins, Dead River Paper Co., Bangor, Maine; Chas. W. Boyce, Bureau, of the Census, Department of Commerce Washington, D. C.; H. O. Nichols, Crown Zellerbach Corp., New York, and Clifton W. Housley, Book Paper Mfrs. Ass'n., New York.

Paper Makers Advertising Assn.

The annual luncheon and election of officers of the Paper Makers Advertising Association was held in the Flamingo Room, Hotel Lexington on February 25 with some 31 members and guests present.

With the exception of the election of R. F. (Corb) Walter, Chemical Paper Mfg. Co. to succeed Floyd Triggs, Riegel Paper Corp., as treasurer, all officers were re-elected. These include Hubert S. Foster, Mead Corporation, president and Bradley E. Stafford, Strathmore Paper Co., secretary.

Mr. Foster reported that the association was in healthy condition with 23 leading mills as members and all indications that the number will be increased shortly. He commented particularly on the intelligent manner in which the organization operated and expressed thanks for the wholehearted support given him by his fellow officers.

Blotting Paper Mfrs. Association

At the annual meeting of the Blotting Paper Manufacturers Association, held at the Waldorf-Astoria on Monday, the following officers were elected: president—J. J. Hallowell, Wrenn Paper Company, Middletown, O.; vice-president, L. D. Nicolson, District of Columbia Paper Co., Washington, D. C.; secretary-treasurer, William D. Staples, New York.

Writing Paper Mfrs. Association

At the eighty-fifth Annual Meeting of the Writing Paper Manufacturers Association held on Tuesday, February 26, at the Waldorf-Astoria Hotel, H. H. Hanson, W. C. Hamilton & Sons, was reelected president of the association for the ensuing year. In addition, the following officers were reelected: M. D. Bardeen, Lee Paper Company and Mr. W. J. Garrity, The Munising Paper Company, vice presidents, M. C. Dobrow, Executive Secretary and Treasurer.

A recent order from a Prominent Pulp and Paper Manufacturer

comprises the following

GENERAL AMERICAN EQUIPMENT

DIGESTERS and BLOW TANKS

COMPLETE RECAUSTICIZING PLANT

LIME RE-BURNING KILN INSTALLATION

BLACK LIQUOR EVAPORATOR STATION

BINS and TANKS

To be delivered and erected on customer's foundation by *this* organization—

One Contract—One Responsibility

General American

TRANSPORTATION CORPORATION

process equipment • steel and alloy plate fabrication

SALES OFFICE:
516 Graybar Bldg., New York 17, N. Y.
WORKS: Sharon, Pa.; East Chicago, Ind.

GAT-X GENERAL AMERICAN

OFFICES: Chicago, Louisville, Cleveland, Sharon, Orlando, St. Louis, Salt Lake City, Pittsburgh, San Francisco, Washington, D. C.

Members of the Executive Committee are: H. R. Baldwin, Hammermill Paper Company; T. A. Hendry, Mead Corporation; C. B. Morgan, Eastern Corporation; A. C. Remley, Nekoosa-Edwards Paper Company; F. H. Savage, International Paper Company; W. B. Zimmerman, Maxwell Paper Company; H. V. Burgee, Parsons Paper Company; A. C. Gilbert, Gilbert Paper Company; Hale Holden, Jr., Byron Weston Company; E. A. Oberweiser, Fox River Paper Corporation; E. C. Reid, American Writing Paper Corporation; G. E. Williamson, Strathmore Paper Company; Norman Harrower, Linton Brothers & Company; R. H. Morrill, Chemical Paper Manufacturing Company and Bruce Crane, Crane & Company, Inc.

The principal speaker at the annual meeting was Dr. Virgil Jordan, President of the National Industrial Conference Board, who spoke on "The Business Outlook." In addition, the following speakers reviewed events important to the Writing Paper Manufacturers Association: H. T. Martin, Industrial Relations Advisor of Holyoke Paper Mills, "Labor Problems in the Paper Industry"; H. H. Hanson, president of the association, "Financial Aspects of the Paper Industry"; G. P. Lee, "Government Paper Requirements," and M. C. Dobrow, executive secretary, Writing Paper Manufacturers Association, "What Makes the Paper Market Tight?"

Tissue Association

The Tissue Association held its board of governors meeting on Monday and elected a new board of directors followed in turn by election of officers by that group, resulted in the continuation in office for another term of President Joel Hartman, who is also president of Barclay Tissue Mills, Brooklyn, N. Y. Other officers to be honored with office are E. E. Grant, president of Crystal Tissue Co., Middletown, N. Y., vice-president, B. F. Picola, treasurer, and Ross A. Fife, executive secretary.

Seventeen members elected to the board of directors in addition to the president are: C. E. O'Conner, Jr., B. F. D. Co.; G. E. Grant, Crystal Tissue Mills; B. I. Reider, Victoria Paper Mills; Avery Stone, Mohawk Valley Paper Co.; John McKirdy, Scott Paper Co.; Wayne Brown, National Paper Products Co.; A. Ginsberg, Statler Tissue Mills; A. B. Hanson, Northern Paper Mills; A. B. Suter, Rondout Paper Mills; Grafton Honston, Fort Howard Paper Co.; Robert Monteith, Pusmal Products Corp.; William Erisman, Erving Paper Mills; Howard Gordon, Dennison Mfg. Co.; Gilbert Henderson, The Brown Co.; G. H. Wintgen, Hoberg Paper Mills; Normon Seagrave, Port Huron Pulp and Paper Co.; John Cahill, Ben Mont Papers, Inc.

Sulphite Paper Mfrs. Assn.

At its annual meeting on Monday the Sulphite Paper Manufacturers' Association elected the following officers for the coming year: General chairman, Harold O. Nichols, manager Eastern Division, Crown Zellerbach Corp.; vice-chairman, Bleached Group, James G. Conley, manager Paper Sales, Fraser Industries, Inc.; vice-chairman, Unbleached Group, George Stuhr, Southern Kraft Div. of International Paper Co.; vice-chairman, Manila Group, Rufus L. Sisson, Jr., vice-president, Racquette River Paper Co.; vice-chairman, Machine Glazed Group, Neil E. Nash, asst. to president, Nekoosa Edwards Paper Co.; and vice-chairman, Converting Group, Gilford Henderson, sales manager, Paper Div., Brown Co. Members of the board of governors are: Jack B. Cowie, sales manager, Hollingsworth & Whitney Co.; Edgar W. Kiefer, president, Port Huron Sulphite & Paper Co.; Fred P. Pandow, Consolidated Water Power & Paper Co.; John Stevens, Jr., vice-president, Marathon Corp.; and Rufus I. Worrell, president, Mead Sales Co.

Bachrach Photo

HAROLD O. NICHOLS
Heads Sulphite Paper Group

Following a motion by Mr. Stuhr, seconded by G. J. Ticoulat, Crown Zellerbach Corp., the retiring president, Mr. Kiefer, who had served for three years, was given a vote of thanks for his splendid work and inspiration to association members. In response, Mr. Kiefer stated that he had enjoyed being general chairman and received great pleasure from his association with members of the group.

Talks were made by Oliver M. Porter of the U. S. Pulp Producers Assn. and Ward Culver, counsel to the association, who spoke on "Labor and the Anti-Trust Laws." E. G. Amos addressed the meeting on the topic, "Labor Relations in the Industry."

Warren Bullock, manager, Import Committee, discussed import duties and the possibility of reductions being made in the rates now charged on various paper grades.

Thomas J. Burke was re-appointed secretary-treasurer by the board of governors at the Monday morning meeting. Mr. Culver was re-named counsel.

The meeting closed with a dinner on Monday evening in a completely informal atmosphere. A handsome silver tray was presented to Mr. Kiefer by his associates in the group in recognition of his effective leadership during the war years.

Bristol Board Group

At the annual meeting of the Bristol Board Group of the Writing Paper Manufacturers Association held Monday, February 25, at the Waldorf-Astoria Hotel, Mr. Norman Harrower, Linton Brothers & Company, was reelected chairman. In addition, the following were reelected as members of the Bristol Board Committee: Mr. Kendall Wyman, Champion Paper and Fibre Company; Mr. J. E. Holmes, Chemical Paper Manufacturing Company; Mr. R. M. Swaney, Franklin Paper Company and Mr. H. W. Tunstall, Wheelwright Papers, Inc.

Markets are now returning to the competitive basis that has been largely responsible for the successful progress of American industry. In face of this fact, it becomes increasingly important that you assure the continual quality of your product by the use of raw material of unvarying quality. Today, as always, Restigouche Bleached Sulphite Woodpulp is being manufactured under carefully planned and time-tested methods.

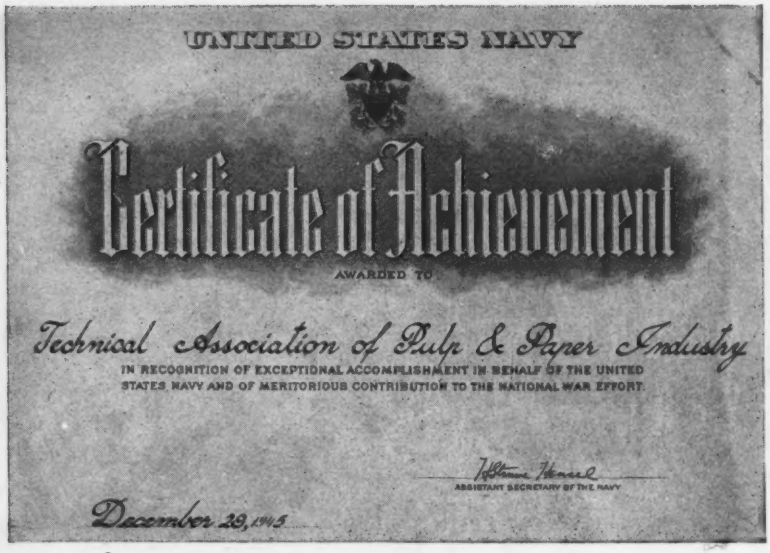
Restigouche
BLEACHED SULPHITE PULP

IN ACTION TODAY—
BUILDING FOR TOMORROW

FRASER INDUSTRIES INCORPORATED

Pulp Division

420 LEXINGTON AVENUE • NEW YORK, N. Y.


UNITED STATES NAVY

Certificate of Achievement

AWARDED TO

Technical Association of Pulp & Paper Industry

IN RECOGNITION OF EXCEPTIONAL ACCOMPLISHMENT IN BEHALF OF THE UNITED STATES NAVY AND OF MERITORIOUS CONTRIBUTION TO THE NATIONAL WAR EFFORT.

ASSISTANT SECRETARY OF THE NAVY

December 29, 1945

"WELL DONE" TAPPI
The Navy's Certificate of Achievement was presented to the Technical Association of the Pulp and Paper Industry this week

TAPPI Presents a Full Program

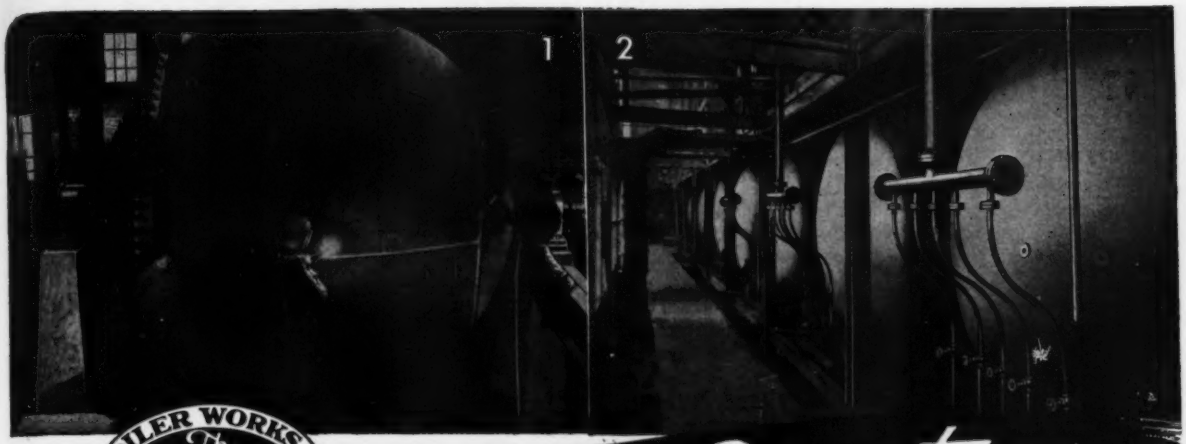
TAPPI made a running start this week on its reconversion problems. In its first postwar convention the Technical Association of the Pulp and Paper Industry presented a program of well-varied discussion, recorded a near all-time high in its registrations, received the Navy's tribute for a job well done, and pledged its full support to the administration of newly elected president Gunnar W. E. Nicholson.

The annual gathering of the industry's technical men started bright and early in the week with reports by its retiring president Vance Edwardes and its Secretary R. G. Macdonald. This opened four full days of interesting meetings, brought to a close with the annual luncheon at the Commodore when Rear Admiral H. C. Nuber presented the Navy's Certificate of Achievement to the Association. Sectional meetings, committee meetings, and sessions devoted to special problems of the industry filled the interval between. The annual Tappi award for service to the industry was presented to W. G. McNaughton of the News Print Service Bureau.

Annual elections, conducted by mail, had elevated Mr. Nicholson from his vice-presidency to the top chair for next year. Worthen E. Brawn, a member of the executive committee was returned as vice-president for the coming year. Wilbur F. Gillespie and Albert E. Bachmann were again elected to the executive committee, the former for three years and the latter for two. George J. Braebender, Edwin F. Burns and James W. Hemphill were newly elected to the committee.

R. G. MACDONALD *(left)*
Secretary-Treasurer

W. E. NICHOLSON *(right)*
President



The Biggs BOILER WORKS CO. AKRON OHIO U.S.A. EST 1857

Biggs Digesters . .

STANDARD EQUIPMENT FOR OVER 50 YEARS

Fig. 1—Biggs 14 ft. dia. welded rotary digester with worm-and-segment drive. *Fig. 2*—nine 14 ft. x 40 ft. sulphite digesters; weight, 65 tons each.

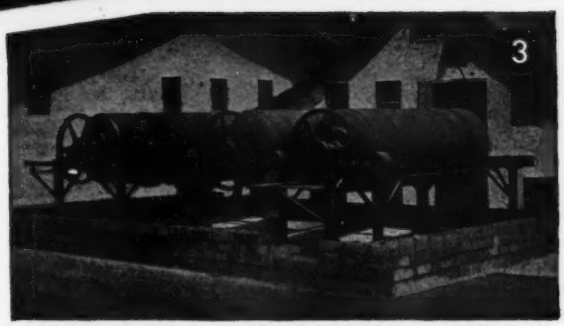


Fig. 3—cylinder rotary bleaching boilers available in all sizes and with various types of drives.

SINCE 1887 Biggs globe and cylinder rotary as well as stationary digesters have been universally used in the paper industry. These units are furnished in all sizes; are made from carbon or alloy steels for various working pressures with drives, linings and fittings to suit individual processes. Biggs "rotary boilers" are most versatile and economical in cooking, bleaching and otherwise processing a wide range of materials for standard and special operations. Units installed by Biggs in 1890 are still in daily operation with a minimum of maintenance. Biggs maintains a competent erecting organization. *Write for Bulletin 45.*

Biggs' modern plant facilities permit the fabrication of pressure vessels, welded tanks, pipe lines, stacks and other types of plate work.

Fig. 4—laboratory digester 8"x 18" with chain drive; working pressure, 250 lbs. Can be had in various sizes.

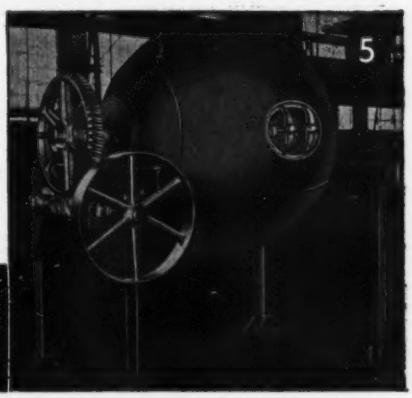


Fig. 5—experimental rotary digester made of nickel-clad steel. Units available in sizes from 30" to 72" dia. for various working pressures; fittings as required. →

BIGGS WELD — STRONGER THAN THE PLATE ITSELF

THE Biggs BOILER WORKS CO.

1012 BANK STREET • AKRON 5, OHIO, U.S.A.

What the Year Accomplished

By Vance P. Edwardes

We are meeting today not only for the first time in two years but also for the first postwar meeting. It is my pleasure to welcome back to TAPPI and the paper industry those members who have served in the armed forces and in war industries; also the many new members who have joined during the last two years.

A review of association activities is in order at this time, particularly those having a direct bearing on problems brought about by the war. There is hardly a branch of the armed services which has not availed itself of the fund of information collected over the years by the association. While we have always been proud of the TAPPI Standards, it was a distinct honor when these methods were adopted unchanged by our armed forces and those of our allies. Because of the urgent need an unusually large number of standard methods were issued during the past two years. At this time I want to pay tribute to those who as individuals and committee members contributed so generously during the emergency.

You have probably seen the published announcement of an honor which has recently been awarded the Technical Association—namely the Navy's Certificate of Achievement which "signalizes the Navy's recognition of the splendid effort put forth * * * * in support of the war production program". This award was entirely unsolicited and we have expressed our sincere appreciation to the Navy's Bureau of Supplies & Accounts for their action.

Committee Organization

It is of course a recognized fact that the success of an organization of this type depends almost entirely on the activity of its various committees. Two years ago a move was initiated to bring committee work in closer contact with the Executive Committee through the appointment of executive committee members to divisional chairmenship. This move, I am glad to say, has strengthened the committees in spite of restrictions arising out of the war and I look for even more encouraging results during the years to come.

In the past there has been little or no opportunity for committees to meet to decide on policy and to make plans for future activity. It was planned to provide such an opportunity at last year's annual meeting. As you will note from the program, all committees will meet at 2 o'clock this afternoon in the Grand Ball Room, unless otherwise indicated.

For some time the Executive Committee has felt that greater emphasis should be placed on the many and varied engineering phases of the industry. Of late years the chemical aspects have been to the fore though prior to the outbreak of the war tentative plans had been made to hold an engineering regional meeting. It is probable that such a meeting will be arranged for this year.

According to the bylaws, committee chairmen are to be appointed by the president with the advice and consent of the Executive Committee. I believe the entire committee structure would be strengthened if the chairmen were selected by the committee, preferably from among its active members. I am sure my successor will welcome such a procedure.

For the first time, practically all committee chairmen or their representatives met with the Executive Committee to discuss mutual problems and matters of policy. The meeting was held the first of November at The Institute of Paper Chemistry in Appleton and I am sure was an inspiration to all who attended. It is my suggestion that similar meetings be held annually in an academic atmosphere.

Local Sections

The cancellation of the last three annual meetings threw an added load on the various sections, all of which have carried on extremely well under war time restrictions. Some of the larger sections have been very successful in holding local monthly dinner meetings of what might be called "chapters". Attendance has been well sustained and it is not unreasonable to suppose that in time these chapters will become sections. Others have followed the policy of holding one-day meetings of the entire membership in various localities covered by their group.

One new section—the Maine-New Hampshire—received its charter in 1945, after successful operation as an independent group for two years. One or more Southern sections will doubtless be formed during the next few years.

The importance of section activity cannot be overemphasized. More members can attend sectional meetings than annual—particularly the younger men

Vance P. Edwardes
Retiring President, Technical Association of the Pulp and Paper Industry.

AMBURSEN DAMS

SINCE the construction of the first AMBURSEN TYPE DAM at Theresa, New York, in 1903, about 400 of these structures have been built. Difficult foundation problems have been successfully solved, about 175 of the total number of AMBURSEN DAMS having been constructed on soft or porous foundations that prohibited the construction of any other permanent type of dam.

AMBURSEN DAMS are scattered all over the world, on foundations varying from ledge rock to sand and silt, and under climatic conditions varying from the tropical heat of the Malay Peninsula to the continuous cold beyond the Arctic Circle in Scandinavia. Eighteen have been constructed for the United States Government and over sixty for American municipalities. Utilized repeatedly by a multitude of industrial and public utility owners, the AMBURSEN TYPE DAM offers to the engineer safety, permanence and economy.

40 BUILT FOR THE PULP AND PAPER TRADE

The partial height method of constructing AMBURSEN DAMS effects low initial cost and minimum carrying charges for hydro-electric and water supply developments, permitting economical future increase in height when required.

Various AMBURSEN TYPE DAMS have been successfully constructed with power houses or filter plants enclosed within the dam structure itself, at a substantial saving in first cost and in operating expense.

41 YEARS OF SUCCESSFUL USE

Highest safety factor of any type of dam.

Subject to rigid scientific analysis throughout.

Maximum resistance to sliding and overturning.

Uplift pressure eliminated.

Foundation loading uniform and controllable.

Positive provision for expansion and contraction.

Permanence unaffected by climatic conditions.

Economically adaptable to any foundation.

Rebuild Your Old Dam.

Modernize Your Hydroelectric Plant.

Send for Literature, Cost Data, Photos.

AMBURSEN DAM COMPANY

295 Madison Ave.
New York

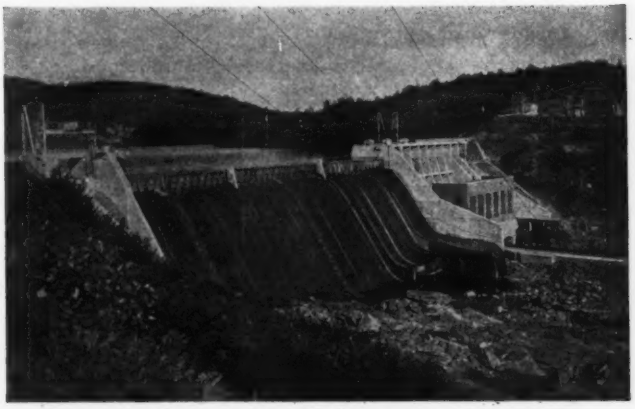
204 Travis Street
Houston, Texas

February 28, 1946

WILTON DAM, SOUHEGAN RIVER, NEW HAMPSHIRE. 1904
Municipal water supply. Rock foundation

PIERREPONT MANOR DAM, BEAR CREEK, NEW YORK. 1921
Northern N. Y. Milk Co.; storage. Shale foundation

JORDAN RIVER DAM, VANCOUVER ISLAND, BRITISH COLUMBIA. 1912
British Columbia Electric Railway; power and storage. Rock foundation



BRISTOL DAM, PEMIGEWASSETT RIVER, NEW HAMPSHIRE. 1932
New Hampshire Public Service Company; hydroelectric plant. Rock foundation

TAPPI *Executive Committeemen*

A. E. BACHMANN *(left)*

JOHN A. HANSON *(right)*

—a large group of nonmembers of the national benefit by these meetings—an excellent opportunity is afforded the younger men to try their wings, as it were, before a smaller informal group and thus develop leadership. The sections have a great responsibility in developing technical thought and bringing technical information to their members.

Most sections depend on papers from their own organization but others still secure speakers from without. The reason is obvious but I feel a mistake is being made in overlooking local material.

Local section activity has increased and all sections have grown stronger with the years due probably to the fact that National TAPPI has maintained a policy of cooperation rather than one of regulation. Section XII of the constitution provides the only limitation on section activity, namely that the officers shall be individual members of National TAPPI.

Sections can be of great help to the national through sponsoring national committee activity, since there is not a section whose members are not directly interested in the activities of one or more committees.

While there has always been a standing sub-committee of the Executive Committee on local sections, in order to provide even closer relations, each section has been advised that the executive committee member within their Section is the official representative of National TAPPI and in turn their representative to the national.

FALL MEETINGS

The constitution provides for two regular meetings during the year—the annual and the fall meetings. It is becoming increasingly clear that a change in policy will soon be forced upon us by reason of the large attendance at the fall meeting. It has been the practice to hold fall meetings in papermaking centers but hotel accommodations are lacking in such localities for a large group. The alternative which has been suggested is to hold a number of fall regional meetings in papermaking centers under the auspices of one or more committees, thereby accomplishing several worthwhile objectives: the strengthening of committees and sections; opportunity for more members, particularly the younger men, to attend and development of leadership while still retaining the desirable feature of mill visitations. An outstanding example of this type of meeting, among others held, was the two-day session in Savannah in October of 1944, sponsored by the Alkaline Pulping Committee and the Byproducts Committee.

No change is contemplated for this year and the regular fall meeting will be held in some large city. It is most likely, however, that several regional meetings of the type described will be held in various localities.

PUBLICATION POLICY

During the past years several reviews have been made of the entire publication policy of the association. For the last two years a standing sub-committee of the Executive Committee has been active on this question. To assist them three additional members have recently been appointed from the active membership at large.

Many questions enter into this problem, not the least of which is the many diverse opinions now existing among members. In the event that the committee should make any recommendation involving changes in the publication policy of the Association, the change should be referred to the voting membership before any official action is taken.

ROUTINE CONTROL METHODS

The TAPPI Standard Methods are precise and as such hardly applicable to mill routine control. With the view of supplementing the literature on testing a collection of the various mill methods has been undertaken with the idea of distributing to members the various procedures submitted. It is not anticipated that any of these methods will be substituted for any Standard Method. Many will be empirical and others have been developed to meet certain operating requirements but it is believed such a collection will be of value.

It would be premature to attempt to evaluate all the effects of the war upon the future of the paper industry. It is apparent, however, that through the development of new processes and products there will be a shifting of grades, utilization of fairly new fibrous raw materials, keen competition between mills in this country and those abroad, and a definite lack of adequately trained technical personnel.

Because of the tremendous shortage of inventories and the heavy demand for reconstruction and new construction both here and abroad, the paper industry will doubtless experience full operating schedules

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TAPPI *Executive Committeemen*

F. W. BRAINERD *(left)*

JAMES A. WISE *(right)*

for the next few years. During this anticipated period of prosperity it will be necessary for the industry to put its house in order and be prepared for the period of keen competition and reduced business which will follow.

For the present and next few years the association has a very real responsibility to the industry. It will be their duty to publicize, in so far as ethically possible, all the various new manufacturing techniques and, to my mind, of even greater importance, to actively promote the education and development of young technical men.

The task of our secretary, Mr. R. G. Macdonald, has been made doubly hard during the war years and I personally and on behalf of the Executive Committee wish to express to him and his staff our appreciation. I can assure you it is well deserved.

The Executive Committee has been very active during the past two years—in 1944 three quorum meetings were held, four in 1945 and two so far in 1946, in addition to informal meetings of your secretary, vice-president, and president. To them collectively and individually I extend my thanks for their whole hearted cooperation.

To the membership at large I want to leave this thought. The association is growing at an accelerated rate, in fact it might be said to have growing pains; many diverse interests are represented; new processes and products have been developed and the opportunity for leadership in the industry has never been equaled. It is the responsibility of each individual to accept the challenge and by active participation in association affairs to contribute wholeheartedly to the advancement of the Technical Association and the industry we all serve.

TAPPI *Executive Committeemen*

K. P. GEOHEGAN *(left)*

WILLIAM R. BARBER *(right)*

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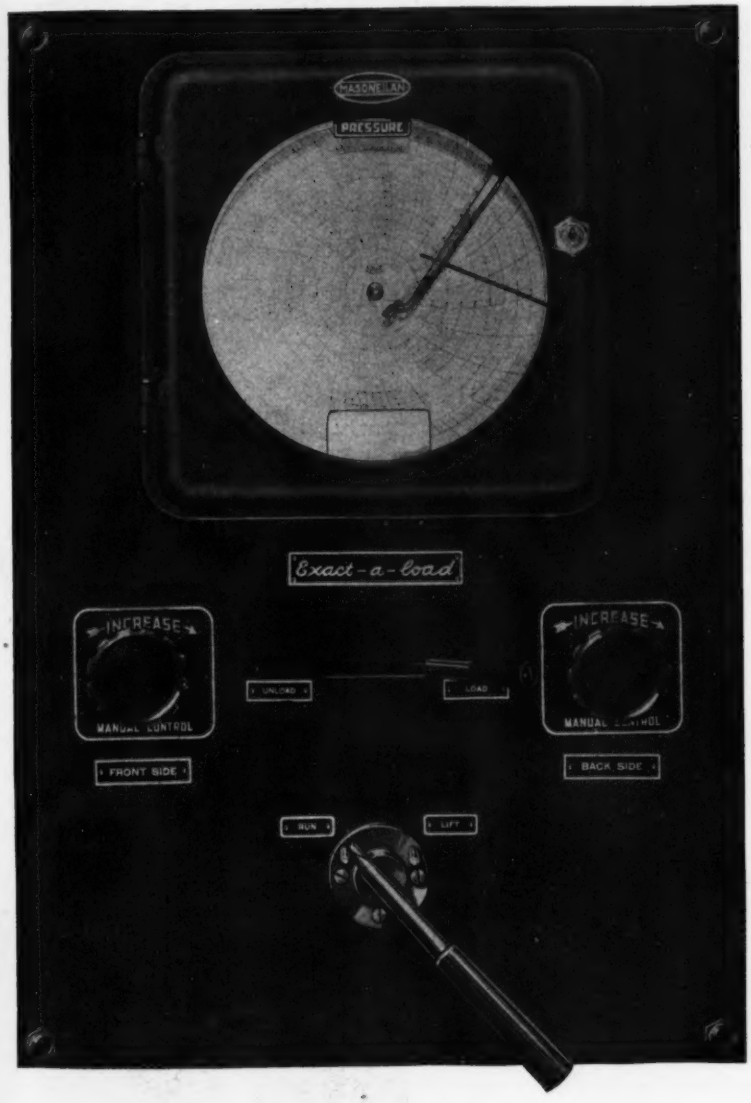

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Accounting of a Stewardship

By R. G. Macdonald, Secretary Treasurer, Technical Association of the Pulp and Paper Industry

The Technical Association of the Pulp and Paper Industry in 1945 continued to operate under a wartime economy and under difficulties that prevented it from holding any national meetings. In place of its regular annual meeting a luncheon meeting was held in February for the purpose of presenting the TAPPI Medal to Bourdon W. Scribner of the National Bureau of Standards for his contributions to the technical advancement of the industry. The local sections held regional meetings although in some cases on a reduced schedule to minimize railroad travel.

Membership

There was a further increase in the number of members who were transferred to the inactive list as a result of entering the various branches of the armed services. A list of these members was published in the 1945 TAPPI Year Book.

There were 302 individual members elected in 1945; 102 resigned or were dropped. On December 31, 1945, the total individual membership was 2,288.

There were 13 corporate and 17 sustaining members elected. One corporate and 3 sustaining members resigned. The corporate membership on December 31, 1945 was 148, and the sustaining membership was 140.

The following companies became corporate members in 1945: Standard Cap and Seal Company, Chicago, Ill.; Dianda & Cia, Ltdn., Sao Paulo, Brazil; E. S. & A. Robinson of Canada, Ltd., Toronto, Ont.; Brown Company, Berlin, N. H.; Orient Paper Mills, Calcutta, India; Dunn Sulphite Paper Company, Port Huron, Mich.; Angier Products, Inc., Cambridge, Mass.; N. Z. Forest Products, Ltd., New Zealand; Guard Bridge Paper Company, Guard Bridge, Fife, Scotland; Cellulose du Pin, Gironde, France; Papeteries du Bourray, Sarthe, France; A/B Sveriges Litografiska Tryckerier, Stockholm, Sweden; and Personal Products, Inc., Milltown, N. J. Sonoco Products Company, Hartsville, S. C., resigned.

Companies that have become corporate members since January 1, 1946 include: Aero Research, Ltd., Duxford, England; Shree Gopal Board Industry, Abdullapur, India; British Paper and Board Industry Research Association, London, England; Bloedel, Stewart & Welsh, Ltd., Vancouver, B. C.; Gould Paper Company, Lyons Falls, N. Y. Also, Paper Corp. of America, New York, N. Y.; Papeteries de Belgique, S. A., Duffel, Belgique; Societe Des Papeteries Aubry, Croisset les Ruen, France.

The following companies became sustaining members in 1945:

The Bevis Machine Company, Middletown, Ohio; John Waldron Corporation, New Brunswick, N. J.; Magnus Chemical Company, Garwood, N. J.; Orr Felt & Blanket Company, Piqua, Ohio; Carthage Machine Company, Carthage, N. Y.; Kalamazoo Tank & Silo Company, Kalamazoo, Mich.; Link-Belt Company, Chicago, Ill.; B. F. Perkins Company, Holyoke, Mass.; Cheney-Bigelow Wire Works, Springfield, Mass.; Reichhold Chemicals, Inc.; Cleveland, Ohio; Prior Chemical Company, New York, N. Y.; Sutherland Refiner Company, Trenton, N. J.; Biggs Boiler Works, Akron, Ohio; Central Soya Company, Inc., Decatur, Ind.; Plaskon Division, Libbey-Owens-Ford Glass Company, Toledo, Ohio; Cellulose Sales Corporation, New York, N. Y.; and the Midwest-Fulton Machine Company, Dayton, Ohio. The Lombard Governor Company, Ashland, Mass., and Meisel Press Mfg. Company, Boston, Mass., resigned. The Stauffer Chemical Company also resigned.

Since January 1, 1946 the Armstrong Machine Company, Three Rivers, Mich., became a sustaining member, and The Kidder Press Company, Dover, N. H. resigned.

Necrology

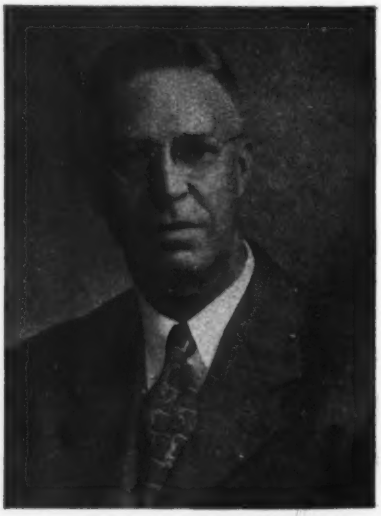
The following members of the association were lost through death:

Theodore J. Bowes, Onyx Oil & Chemical Company; Harry C. Brown, Crossett Paper Mills; Max

TAPPI Executive Committeemen

W. F. Gillespie *(left)*

W. E. Brawn *(right)*



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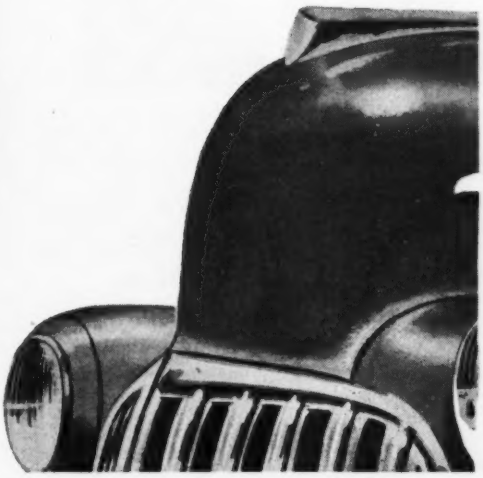

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TAPPI Executive Committeemen

J. C. NUTTER *(left)*

PIERRE DREWSON *(right)*

Cline, International Paper Company; Jacob Edge, Downingtown Mfg. Company; I. L. Gartland, D. M. Bare Paper Company; Francis J. Hamilton, Powell River Company; H. L. Hammerlund, Hamersley Mfg. Company; Harold Hibbert, McGill University; Horace R. Hillegas, Franklin Paper Company; Samuel M. Langston, Langston Machine Company; George S. Macdonald, Lockwood Trade Journal; B. T. McBain, Portland General Electric Company; Clarence W. Noble, Noble & Wood Machine Company; C. B. Thorne, Canadian International Paper Company; E. Viggo Ullmann, Royal Norwegian Air Force; and Robert W. Worden, Diamond Alkali Company.

SPECIAL REPORTS ON MANUFACTURING PROBLEMS

Several special reports based on mill operating problems were prepared and distributed to corporate members and to individuals who cooperated in their preparation. In 1945 the following were issued:

No. 353 Kraft Digester Blow Valves
354 Materials of Construction for Tall Oil Plants
355 Washing Kraft Pulp
356 Automatic Chip Sampling
357 Offset of Cylinder Machine Couch Rolls
358 Use of Starch on a Wet Calender Stack
359 Plastic Committee Meeting Report
360 Slipping of the Wire Face on Cylinder Molds
361 Survey of Wood Utilization for Alkaline Pulping
362 Polyvinyl Alcohol

EMPLOYMENT

For many years the association has conducted a free employment service and has been instrumental in placing a very large number of individuals in jobs. During the past year the supply of such jobs has greatly exceeded the number of individuals available for them. A number of placements were made and there are a number of individuals with special qualifications available who have not been interested in those offered. A feature of employment during the war years has been the large number of women who have entered the industry, particularly in testing and control laboratories.

COOPERATION WITH SOCIETIES AND AGENCIES

The association cooperated with The Society of Automotive Engineers in developing specifications for packaging materials to be used for wrapping antifriction bearings and other metal parts.

Assistance of a technical nature was extended to a large number of military and naval agencies such as the Office of the Director of Security and Intelligence, the Springfield Armory, Mare Island Navy Yard, the Evans Signal Laboratory, Drew Field AAF Hospital, Philadelphia Signal Depot, Sperry Gyroscope Company, Rocky Mountain Arsenal, War Production Board, Charlotte Quartermaster Depot, the Signal Corps Ground Signal Agency at Bradley Beach, N. J., U. S. Engineers Office, the Navy Aeronautical Board, Canadian Dept. of Munitions and Supply, St. Louis Ordinance Plant, British Air Commission, Office of the Chief of Engineers, Fort Monmouth Signal Laboratory, Philadelphia Quartermaster Depot, M.I.T. Chemical Warfare Service Development Laboratory.

During the year the Container Testing Committee was designated as the Advisory Committee to the Freight Classification Committee of the Association of American Railways.

Several members of the association were designated to represent the association on a number of committees of the American Society for Testing Materials.

PUBLICATIONS

Details concerning the Association's publications activities is given in the Year Book and will be mentioned only in this report. The Year Book (400 pages) should be referred to for details concerning all association activities. It is a cumulative report covering the services of the organization over the years.

Technical Association Papers (592 pages) was published in the fall. Usually this volume is devoted largely to the papers presented at the annual and fall meetings, together with a stenographic report of the discussions. Since no meetings were held during the past year, more space was devoted to contributed articles and local section programs. Several papers were prepared for the 1945 annual meeting. Although this meeting was cancelled the manuscripts were received and published in the Papers. Insufficient personnel in the printing plant delayed publication of Technical Association Papers and the other association publications.

The Paper Trade Journal was again the medium for publication of many of the association papers. During the past year George S. Macdonald, owner of the Paper Trade Journal, died. Mr. Macdonald

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was a very good friend of the Technical Association and always had a strong feeling of responsibility toward TAPPI. To help celebrate the 25th anniversary of the association Mr. Macdonald devoted a special issue of the Journal, at considerable expense, to the history of the association. During the year the Journal lost its Editor, Henry J. Berger, through retirement. The association has been much indebted to Mr. Berger for more than twenty years for the assistance that he gave the association's staff in handling the mechanical details relative to several publications. Mr. Macdonald was succeeded by George E. Lockwood, his grandson, as president of the Lockwood Trade Journal Company, and Mr. Berger was succeeded by W. L. Cook, formerly of the McGraw-Hill Publishing Company as editor.

The Bibliography of Paper Making and U. S. Patents for 1944 (clothbound, 221 pages) was issued. This excellent record was prepared by Clarence J. West who has reported the literature of the industry from 1900 to the present. A ten-year collective bibliography covering the period (1936-1945) is now in preparation.

There were 63 standard testing methods issued. The needs of the war agencies accelerated activity in this field and resulted in more than the normal annual accomplishment. Much credit is due to the several chairmen of the Testing Division for this fine work.

There were 44 engineering data sheets issued in 1945. These are of a miscellaneous nature but are carefully selected for their convenience utility. Much data appears in the association and other publications that is of considerable value but have a tendency to become lost in the literature. By selecting some of this material for the data sheets it becomes more readily accessible when needed.

The TAPPI Bulletin was issued at least once each month. Because of the cessation of hostilities its objective changed somewhat during the year. Its format remained the same, namely, a four-page pamphlet devoted to a summary of useful information gathered from sources not readily available to all members. A feature of the Bulletin has been its special articles prepared by authorities on selected subjects. These articles have given a clear and concise interpretation to the subjects covered that could not be obtained by any other means. The Bulletin has been limited in size and the items have been written in a style that promotes their readability. It is probably the most thoroughly read publication issued to the pulp and paper industry.

Monograph

Wartime publication difficulties have prevented any monographs from being issued in 1945. However, several monographs are in preparation. Outstanding among these is a series on paper coating. A large number of members are collaborating in their preparation and some parts are nearly ready for publication.

Manufacture of Pulp and Paper

The textbooks on the Manufacture of Pulp and Paper issued by the McGraw-Hill Publishing Company for the Joint Textbook Committee are being revised. A large number of association members are assisting in this work. It is planned to issue four new volumes to succeed Volumes III, IV, and V of the former set. The first two volumes of that set will not be included in the new one.

Local Sections

The Maine-New Hampshire Section received its charter during the past year. All sections continued to hold reginonal meetings although they were handicapped by travel conditions. The Empire State Section met this situation successfully by establishing four chapters that met frequently at Glens Falls, Fulton, Watertown, and Niagara Falls, New York. The Pacific and New England Sections met this problem by holding meetings at various locations in the territory that they serve.

The following chairmen were elected by their respective sections: Pacific—Harold W. Bialkowsky, Pulp Division, Weyerhaeuser Timber Company; Lake States—H. P. Dixson, Fox River Paper Company; Delaware Valley—A. M. L. Bixler, Riegel Paper Corporation; Kalamazoo Valley—R. C. Germanson, Kalamazoo Vegetable Parchment Company; New England—L. B. Tucker, Crane & Company; Ohio—C. D. Roess, Wrenn Paper Company; Empire State—H. A. Spencer, Knowlton Bros.; and Maine-New Hampshire—Clifford Patch, Eastern Corporation. Among related organizations, the Chicago Profes-

TAPPI Executive Committeemen-elect

J. W. Hemphill

George J. Brabender

Edwin F. Burns

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sional Paper Group elected Harry E. Weston of Fritz Publications, and the Papermakers and Associates of Southern California selected R. S. Buckley of the Fernstrom Paper Mills.

INSTITUTE OF PAPER CHEMISTRY

In the fall the Executive Committee met at The Institute of Paper Chemistry and expressed its appreciation relative to the fine cooperation the association had always received from the Institute.

DIVISIONS AND COMMITTEES

Although handicapped by the cancellation of national meetings of the association, most of the committees have functioned quite well, and with the decision to renew the annual meeting there was a considerable upsurge in interest and activity. Several committees held meetings at convenient locations to organize their work for the future and to plan their annual meeting session program.

A change in policy relative to the selection of division chairmen has been quite successful in the results obtained. Most division chairmen now are designated from the Executive Committee membership and have the responsibility of reporting progress on the part of their divisional committees.

Following is a list of the division and committee chairmen and a record of changes made during the past year:

Engineering Division: W. G. MacNaughton, News Print Service Bureau, General Chairman. *Heat and Power Committee,* Roderick O'Donoghue, Consulting Engineer; *Drying, Heating, and Ventilating Subcommittee,* A. E. Montgomery, J. O. Ross Engineering Company. W. T. Webster, Brunswick Pulp and Paper Company, resigned as chairman of the *Heat Utilization in Chemical Process Subcommittee;* no chairman or personnel have been appointed. E. F. Burns continued as chairman of the *Production and Transmission of Power Subcommittee; Mill Maintenance and Construction of Materials Committee;* J. A. Lee, Chemical & Metallurgical Engineering; *Packing Materials Subcommittee,* J. W. Hemphill; The *Committee on Piping Materials,* S. B. Jones, Chairman, was discontinued as a result of Mr. Jones' retirement; *Water Committee,* L. B. Miller, W. H. & L. D. Betz; The *Engineering Research Committee,* J. B. Gough, Chairman, was transferred to the Engineering Division from the Research Development Division. Mr. Gough resigned as chairman and no chairman nor personnel were appointed.

Industrial Division: W. E. Brawn, Pejepscot Paper Company, General Chairman. *Fibrous Raw Materials Committee,* John Traquair; W. M. Shoemaker, Consulting Engineer, resigned as chairman of the *Industrial Engineering Committee.* No chairman nor personnel have been appointed. *Nonfibrous Raw Materials Committee,* E. N. Poor, American Cynamid & Chemical Company; W. L. Cassiday of Hummel & Downing Company resigned as chairman of the *Vocational Training Committee.* No chairman nor personnel have been appointed; The *Fibrous Agricultural Residues Committee,* S. I. Aronovsky, Northern Regional Research Laboratory, Chairman, was transferred from the Paper Manufacture Division to the Industrial Division.

Converting and Consuming Division: J. D. Malcolmson, Robert Gair Company, General Chairman. *Coating Committee,* Werner Kaufmann, Kupfer Bros. Company; *Containers Committee,* Arno W. Nickerson, Consulting Engineer; *Graphic Arts Committee,* R. H. Simmons, Government Printing Office; a new committee on *Structural Fibrous Materials* was organized near the end of the year with John F. Campbell, The Flintkote Company, as chairman.

Research Development Division: F. W. Brainerd, Scott Paper Company, General Chairman. *Abstracts and Bibliography Committee,* C. J. West, Institute of Paper Chemistry; *Fundamental Research Committee,* Harry F. Lewis, Institute of Paper Chemistry; *Bacterial Control Methods Committee,* R. H. Torrey, Riegel Paper Corporation; *Patents Committee,* C. W. Rivise, Caesar & Rivise; and the *Plastics Committee,* E. C. Jahn, New York State College of Forestry. The Engineering Research Committee was transferred to the Engineering Division.

Pulp Manufacture Division: W. F. Gillespie, Gaylord Container Company, General Chairman. *Acid Pulping Committee,* G. H. McGregor, Minnesota & Ontario Paper Company; *Alkaline Pulping Committee,* K. G. Chesley, Crossett Lumber Company; *Mechanical Pulping Committee,* R. M. Drummond, International Paper Company; *Paper Deinking Committee,* Frederic C. Clark, Consulting Engineer; *Pulp Purification Committee,* D. T. Jackson, Hammermill Paper Company; and the *Byproducts Committee,* Robert H. Stevens, National Container Company.

Paper Manufacture Division: Pierre Drewsen, Consulting Engineer, General Chairman. *Papermaking Committee,* A. E. Bachmann, Mississquoi Corporation. A new committee on the *Preparation of Papermaking Materials* was organized: P. Gooding of the Strathmore Paper Company was appointed chairman.

Testing Division: James d'A. Clark, Consulting Engineer, General Chairman. *Fibrous Materials Testing Committee,* E. R. Schafer; *Pulp Testing Committee,* L. V. Forman, Institute of Paper Chemistry; *Nonfibrous Materials Testing,* W. F. Hathaway, Kalamazoo Vegetable Parchment Company; John C. Tongren, Hammermill Paper Company succeeded B. L. Browning, Institute of Paper Chemistry as chairman of the *Chemical Methods Committee; Microscopy Committee,* F. A. Burningham, Brown Company; *Optical Properties Committee,* A. H. Croup, Hammermill Paper Company; *Container Testing Committee,* Don L. Quinn, Don L. Quinn Company; *Packaging Materials Testing Committee,* W. H. Graebner, Marathon Corporation; *Paper Testing Committee,* B. W. Scribner, National Bureau of Standards; *Absorptiveness to Paraffin Subcommittee,* S. C. Fairbanks, Hamersley Mfg. Company; *Writing and Erasing Properties Subcommittee,* P. W. Codwise, Beaver Wood Fibre Ltd.; *Testing Instruments Subcommittee,* E. J. Albert, Thwing-Albert Instrument Company; and *Water Penetration Subcommittee,* E. G. Mullen, W. Ralston & Company.

SPECIAL COMMITTEES

Peter J. Massey, H. P. Smith Paper Company and C. E. Hrubesky represented the Technical Association on a joint committee with the Society of Automotive Engineers dealing with greasproof wrappings for metal parts; *Research Appropriations Committee,* John L. Parsons, Hollingsworth & Whitney; *Standards Committee,* Roger C. Griffin; *Joint Textbook Committee,* George E. Williamson.

The Executive Committee met with the chairmen of divisions and committees at The Institute of Paper Chemistry, Appleton, Wis., in November. A full day was devoted to discussing a number of subjects relating to general association policy. There was an excellent attendance and the results were highly constructive for the general good of the organization.

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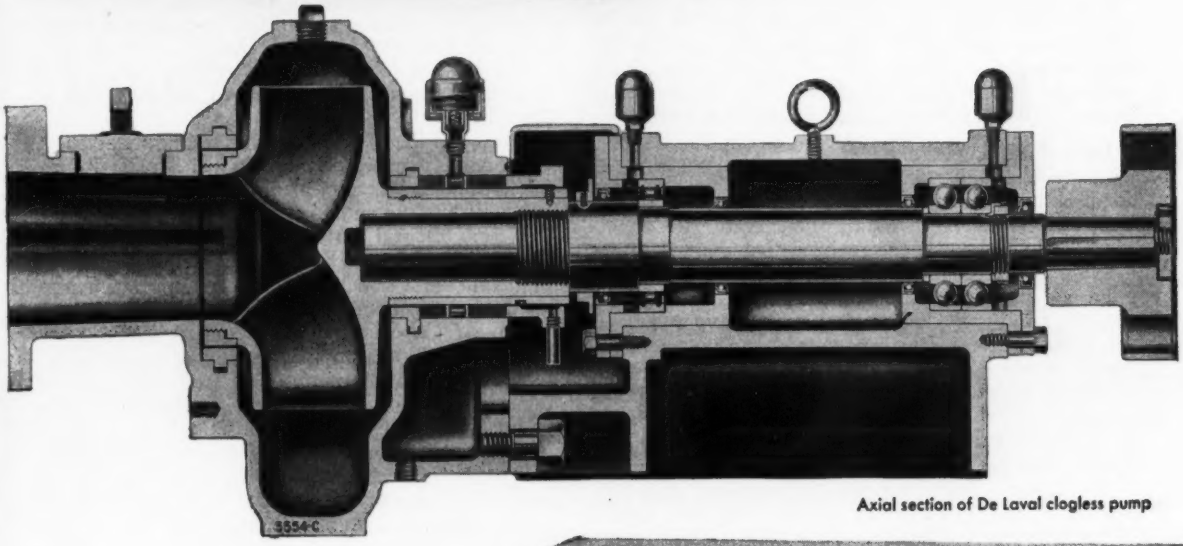

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The Present Status of the Pulp, Paper, and Paperboard Industry's Stream Improvement Program*

By Russell L. Winget[1]

Abstract

The development and policies of the National Council for Stream Improvement, which now has a membership comprising about 80% of the pulp, paper, and paperboard manufacturers in the United States, are presented.

At the present time research developments are centered on the abatement of waste rather than on the development of utilizable materials. This work is being conducted at several universities and research institutions as well as at mills interested in particular phases. The program now in effect is summarized.

In undertaking a national program in connection with the pulp, paper, and paperboard industry's waste disposal and utilization problems, the members of the Board of Governors and staff of the National Council for Stream Improvement realized that they were attacking an extremely difficult problem. Neither the pulp and paper industry, nor, as a matter of fact, any other industry, had much previous experience in the broad matters of general policy, particularly with regard to the public and other equities involved that would be of guidance in this endeavor. Numerous companies in the industry had expended large sums of money in connection with their disposal problems but in most cases their activities had been confined to one type of waste and generally involved only one locality. Cooperative groups of the pulp and paper industry had been established and were functioning smoothly on similar activities but these activities were again concerned with one type of waste and one state or locality. Outstanding among these previous cooperative efforts of the pulp and paper industry were those of the Sulphite Pulp Manufacturers' Committee on Waste Disposal, a committee organized by a group of Wisconsin sulphite mills and the organization of sulphite mills in the State of Washington. No organization, either within or outside the paper industry had, however, attempted the problem including both disposal and utilization of all types of waste, on a national basis, with the inevitable complication bound to arise when the problems of several hundred mills with their variety of wastes in 35 states and 7 regions are involved.

All of these complicated problems indicated the advisability of proceeding slowly and establishing research and general policies on a sound and conservative basis. On the other hand pressure from the public, expressed through their regulatory agencies as well as the wishes of the industry itself, indicated the importance of moving as rapidly as possible in determining methods and procedures for eliminating or reducing the pollutional effects of pulp, paper, and paperboard mill wastes and discharges.

Council Organization

Before attempting to outline the various policies adopted by the Board of Governors in connection with the various interests involved and before explaining the research activities that have been initiated, it would seem advisable to present a brief review of how the National Council came to be organized, what the organization consists of, and how the pulp, paper and paperboard industry has supported it.

On April 22, 1943, a committee known as the Organizing Committee of the National Stream Improvement Plan and composed of seventeen of the industry's outstanding and forward-looking executives, met in New York and drafted the Certificate of Organization and By-Laws of an organization to be known as the National Council for Stream Improvement (of the Pulp, Paper and Paperboard Industries) Inc. A Board of Governors was appointed which met on May 14, 1943, and appointed appropriate committees, fixed the assessment rates, and prepared a plan for the solicitation of members on a national basis. Prior financial support of the corporation's activities was pledged by some 21 pulp and paper companies. Necessary officers were elected and thus the pulp, paper and paperboard industry organized as the first United States industry to approach the waste disposal and utilization problems in a realistic manner on a national cooperative basis. The first officers elected included Mr. George H. Mead, Chairman of the Board of Governors, Mr. U. M. Dickey, Mr. George E. Dyke and Mr. Reuben Robertson, Sr., Vice-Chairmen of the Board of Governors, Mr. J. D. Zink, Treasurer, and Mr. Russell L. Winget, Executive Secretary.

The present officers elected at the annual meeting of members in 1944 are Mr. George E. Dyke, Chairman of the Board of Governors, Mr. U. M. Dickey and Mr. George W. Mabee, Vice-Chairmen, Mr. J. D. Zink, Treasurer, and Mr. Russell L. Winget, Executive Secretary.

The National Council, incorporated in the State of Delaware, is a non-profit-making corporation and is autonomous and entirely independent of any other association or organization. Under the By-Laws, executive control is vested in a Board of Governors elected annually by the membership, with representation proportional to the dollar value of dues paid by groups of members manufacturing various products. The purpose of the organization is to conduct research directed toward the treatment, abatement, recovery and utilization of wastes resulting from the manufactures of pulp, paper and paperboard, and to assist its members in the application of the techniques developed through its research activities to mill op-

*Presented at the Annual Meeting of the Technical Association of the Pulp & Paper & Paper Industry, Hotel Commodore, New York, N. Y., Feb.25-28, 1946.

[1]Member TAPPI; Executive Secretary National Council for Stream Improvement, Inc., New York, N. Y.

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erations. The above briefly summarizes the organization, functioning and earlier activities of the Council which began active operations in June 1944.

At the present time the Council's membership represents roughly 80% of the total pulp, paper and paperboard production of the United States. The Council will operate during 1946 on a budget of approximately $140,000, all of which, with the exception of minimum overhead and executive office personnel expense, will be spent for research. At this point it may be of interest to point out that the pulp, paper, and paperboard industry is currently spending over a quarter of a million dollars on cooperative research devoted to developing a solution to the industry's waste disposal and utilization problems. In addition to the funds being spent on cooperative research, individual companies are probably spending an equal or greater amount. Expenditures of these proportions in activities which are very unlikely to result in a profit to the industry, certainly indicate that the pulp, paper and paperboard industry is very much aware of the pollution problems incident to industry operations and is taking adequate steps to meet them.

Policies

Before reviewing the Council's various research activities it would be of interest to outline some of the policies adopted by the Board of Governors so far during the organization's existence.

First among such policies is the decision relating to the direction and emphasis of the research program. While the research program is two-fold, namely, abatement and utilization, the Board of Governors has ruled that the primary efforts at this time should be devoted to abatement activities as it is felt that abatement cannot wait on the development of utilizable materials to pay the cost of treatment. This policy derives from the necessity of remedying the pollution situation in so far as it is affected by the industry, and in view of the public consciousness of stream pollution problems as evidenced by the demands for national and state legislation the policy is obviously sound. This does not mean that the recovery of usable material is being overlooked but rather that the emphasis at this time must be on stream improvement.

Second is the policy of nonintervention in political matters, particularly legislation. The Council subscribes to several legislative reporting services to the end that its members may be advised as to pending legislation and also to insure that the various research activities may be properly oriented to the probable demands of enacted legislation. The Council will not, however, attempt to direct the support or opposition of the industry in legislative matters.

Third is the matter of cooperation with regulatory agencies. The Council is making every effort to cooperate with national, state and other regulatory agencies having jurisdiction in stream pollution. Such agencies are regularly invited to attend regional committee meetings; they receive Council releases and their representatives are welcomed at the various research laboratories to examine results achieved and to consult with and advise the research staffs. The Council has been very successful in securing the helpful cooperation of these regulatory agencies and the cooperative relationship thus established has resulted in benefit not only to the industry but to the agencies themselves.

In respect to the use of waters for the disposal of wastes, the Council subscribes to the policy adopted by most of the outstanding authorities in the field of stream sanitation. This "reasonable use" policy is based on the concept that an industry or municipality is entitled to use the stream for the disposal of wastes providing that such use is not contrary to the public interest, does not constitute a public nuisance or menace the public health, deprive downstream industries of their right to a usable supply of water and, in general, does not prevent the use of the streams for the purposes to which they are normally put. In this respect it may be pointed out that the presence of pulp and paper mill wastes in streams does not generally constitute a menace to public health as do untreated domestic sewage discharges, although it may be freely admitted that they do quite frequently constitute a public nuisance, decrease the value of streams for recreational and sporting purposes and may affect what, for lack of a better term, may be phrased as their "esthetic value."

The equities involved in the industrial usages of water are of great importance and are recognized by our policy. Industry uses vast quantities of water in various manufacturing processes. It has been said that some paper mills pump a whole river in at one end of the mill and out the other. The Council's policy in this respect is to assist the pulp and paper industry in preventing discharges from rendering waters unacceptable for reuse, not only by other manufacturing establishments but by the pulp and paper industry itself. In this respect one of the early conclusions drawn from one research project was that if nothing else could be salvaged or recovered from the mills' effluent at least water could be made available for reuse.

Research Program

After approximately a year and a half of active functioning the Council has organized what is believed to be a sound research program. A definite procedure has been established for referring problems to the attention of the research groups. Standing regional committees have been organized in each of the seven regions of the United States. These committees meet twice a year and based on information obtained through distribution of questionnaires and from personal knowledge of the committee members the urgent problems in the region are presented for consideration in open meeting. Such presentation generally results in a recommendation to the Board of Governors and in the establishment of a research program at some qualified institution contiguous to the area in which the particular problem is concentrated. As a result of the recommendations of the regional committees seven separate research investigations are now under way. These include the following projects which are now fully organized and on which the laboratory and field work is progressing rapidly.

Mellon Institute Fellowship

The Council has established a multiple fellowship at the Mellon Institute of Industrial Research at Pittsburgh, to investigate all phases of the industry's waste abatement and utilization problems that are suitable for laboratory investigation. Professor W. W. Hodge, formerly head of the Chemical Engineering Department of the University of West Virginia, is in charge of the work and the staff consists of a sanitary engineer, a chemical engineer, three laboratory assistants, and a nonresident sanitary engineer in charge of certain field activities. Mellon Institute is

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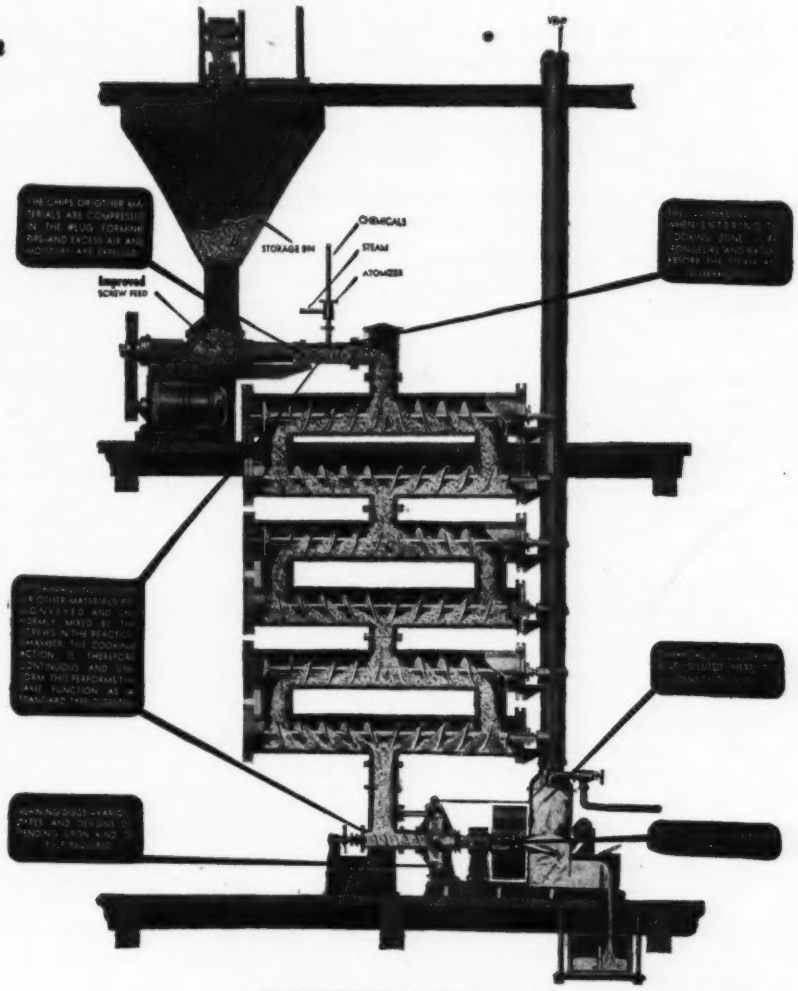

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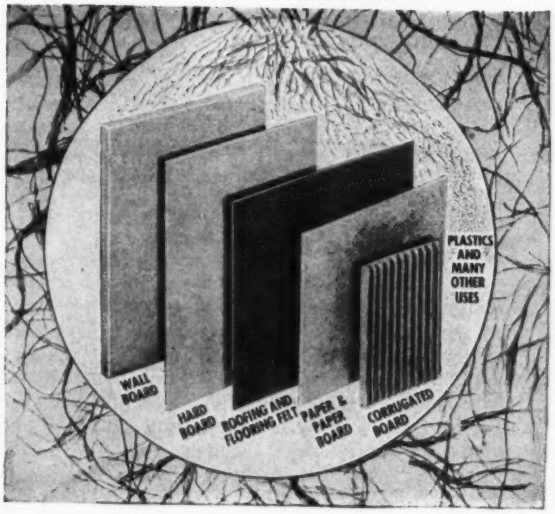

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currently investigating deinking mill wastes, bleaching wastes, and flax pulping wastes, and will undertake other research activities as the need arises.

MANHATTAN COLLEGE

At Manhattan College, Professor Clarence Velz, Head of the Civil Engineering Department, is making a sanitary analysis of all the watersheds of the United States, in which the pulp and paper industry is situated. The purpose of the survey is to determine the industry's responsibility for existing stream conditions in relation to other industries and municipalities and also to determine the degree of treatment the pulp and paper industry's wastes must receive to be rendered acceptable for discharge into the stream. Professor Velz is a national authority in the field of stream analysis calculations and has a staff of four part-time civil and student engineers.

INSTITUTE OF PAPER CHEMISTRY

At The Institute of Paper Chemistry, Dr. Willis Van Horn is directing a National Council project known as the Aquatic Biology Project. The purpose of this investigation is to investigate the effect of pulp and paper mill wastes on aquatic life. This project has a background of several years' work on the effect of kraft mill waste on aquatic life.

SULPHITE WASTE LIQUOR PROJECT

The Council has undertaken two projects in connection with waste sulphite liquor disposal. These are the trickling filter and river aeration projects. Both of these activities are centered at Wisconsin mills and at the Institute of Paper Chemistry.

In the trickling filter process, waste sulphite liquor is treated and the biochemical oxygen demand is satisfied before the waste liquor passes into the receiving waters. This project has passed from the laboratory stage to a 15-foot diameter filter pilot plant at the Consolidated Water Power and Paper Company's mill at Appleton, Wisconsin.

In the river aeration process the stream's deficiency in dissolved oxygen is satisfied by diffusing large amounts of air into the river below the point where the waste sulphite liquor is discharged. Results to date show that this system can, under certain conditions, accelerate stream recovery to a marked degree since the diffused air appears to reduce rapidly the B.O.D. of the stream water as well as add a considerable quantity of dissolved oxygen. Both these projects are under the direction of Dr. Averill Wiley who has carried on similar activities for a group of Wisconsin mills for several years.

PURDUE UNIVERSITY

At Purdue University, under the direction of Professor Don E. Bloodgood of the School of Sanitary Engineering, the Council has established a fellowship to determine the best method of disposing of straw mill waste liquor with due regard to recoverable materials.

RUTGERS UNIVERSITY

The Council has just concluded an agreement with Rutgers University in New Jersey under the terms of which the College will make basic plant and laboratory studies of fundamental factors involved in white water treatment at board and fine paper mills. The work is under the direction of Dr. Willem Rudolfs, who, in addition to being Chief of the Division of Sanitation of Rutgers University, is a national authority in the field of stream sanitation. This project will, as will all other projects, be closely integrated with actual mill operations so that the research findings can be made applicable to full-scale plant operations.

UNIVERSITY OF MICHIGAN

The School of Engineering Research of the University of Michigan is cooperating with the Council in its study of deinking mill wastes to determine the best way of treating and utilizing such wastes, under the terms of an agreement signed in 1945. Professor McCready and Dr. Ridenour of the Chemical Engineering and Sanitary Engineering Departments, respectively, are directing this activity. Kalamazoo College of Kalamazoo, Michigan, is also cooperating in this project by leasing to the Council its laboratory facilities and making students in its Chemical Engineering Department available for part-time work. Mr. Phillip Morgan, a sanitary engineer employed by Mellon Institute, is resident engineer in charge of the deinking investigation.

Other research activities will be instituted as the recommendations of the various regional committees become available from time to time. Through the employment of these outstanding institutions, the experience, knowledge and technical ability of scientists and technicians of national standing in the field of stream sanitation, chemical and civil engineering are brought to bear on the industry's problems. This experience and knowledge constitutes an added benefit to the Council and its members apart from the research accomplishments achieved by the fellowships directly.

In concluding this review of the National Council's activities after its first full year of active functioning, appreciation of the amount of time and effort that the Council's Board of Governors, its Executive Committee, Technical Planning and Budget Committee, and, equally important, the various regional committees and their chairmen, have devoted to Council activities must be expressed.

In a cooperative effort of this nature the paid staff's activities can only be effective if they are directed and indicated by the experience, business judgment and technical knowledge of those in the industry who live with the problems involved. Such advice and direction has been available to the staff in a generous measure and whatever success has been achieved in the program is due to a large degree to this contribution.

The cooperation of TAPPI, particularly Mr. R. G. Macdonald and Mr. L. B. Miller, Chairman of the TAPPI Water Committee, is also very much appreciated. If the Council can be of service to TAPPI members or the companies they represent in matters within the field of the Council's activities, it is hoped that they will avail themselves of its facilities.

New TAPPI Members

The Executive Committee of the Technical Association of the Pulp and Paper Industry has elected the following to membership:

Robert K. Staman, Chemical Engineer, West Virginia Pulp & Paper Company, Mechanicville, N. Y., a 1937 graduate of Pennsylvania State College.

Daniel R. Weedon, Jr., Manager of Testing Division, Package Materials Laboratories, Inc., Long Island City, N. Y., a 1941 graduate of the Massachusetts Institute of Technology.

Carl J. Wynstra, Chemist, Container Corporation of America, Chicago, Ill., a 1942 graduate of the University of Michigan.

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Developments in the Physical Testing of Paper During 1944–1945*

By B. W. Scribner[1]

This report is a resume of developments in physical testing of paper that have come to the author's attention during the period November 1944 to October 1945, inclusive. It is one of the reports of developments relating to paper and paper products prepared annually by chairmen of committees of the Technical Association of the Pulp and Paper Industry. Developments in microscopic testing and tests of optical and printing properties are not included as they are dealt with by other committees.

The following new TAPPI method was published: Paraffin Wax Absorptiveness of Paper, T 467m-45 *(1)*. This method is for testing waxing papers to find the amount of wax required to saturate the paper without producing any surface film. The test specimen is placed between two sheets of waxed blotting paper and the pad thus formed is placed between two steel plates, and the whole is heated at 105°C. The gain in weight of the test specimen gives the amount of wax absorbed.

The TAPPI method for basis weight, T 410m-45 *(2)* was changed to add instructions for testing paperboard. The Chairman of the TAPPI subcommittee on Writing and Erasing Properties of Papers, P. W. Codwise, reported *(3)* the results of an investigation which resulted in the development of a proposed TAPPI method for erasing quality of paper with respect to writing ink. Erasures of standard ink are made under standardized conditions in a mechanical abrading apparatus. The A.S.T.M. paper testing methods are contained in "A.S.T.M. Standards on Paper and Paper Products," prepared by A.S.T.M. Committee D-6 on Paper and Paper Products, and issued by the society. The latest issue is of December, 1944. The methods of TAPPI and A.S.T.M. are essentially the same, being correlated by means of a joint committee.

A method for "Flexural Resistance and Deflection of Paperboard" was published by TAPPI *(4)*, but it has been withdrawn for revision. The test is made with stirrups clamped in a tensile testing machine by means of which the load required to bend the board and the deflection of the board are measured. The stated diameter of the cylinders of the stirrups and span of the test specimens are to be changed to accord with standard practice. T. H. Farebrother described a similar method for testing resistance to flexing of fiberboards *(5)*. E. R. Gibbon made a study of the stretching properties of paper under tension and its recovery on release of stress, in connection with the lamination of foils to paper *(6)*. Examination of the bursting strength test was made by high-speed cinematography by H. A. Harrison, H. Aimsworth, and G. F. Underhay. They drew the tentative conclusion, from the photographs and analyses of the strength data, that the bursting strength depends more on machine direction than on cross-direction strength and stretch *(7)*. An article by J. A. Van den Akker gave a summary of work at the Institute of Paper Chemistry on the dielectric properties of paper. A theory of dielectric strength is included which is based on the hypothesis that cellulose fibers have an electrical barrier action *(8)*.

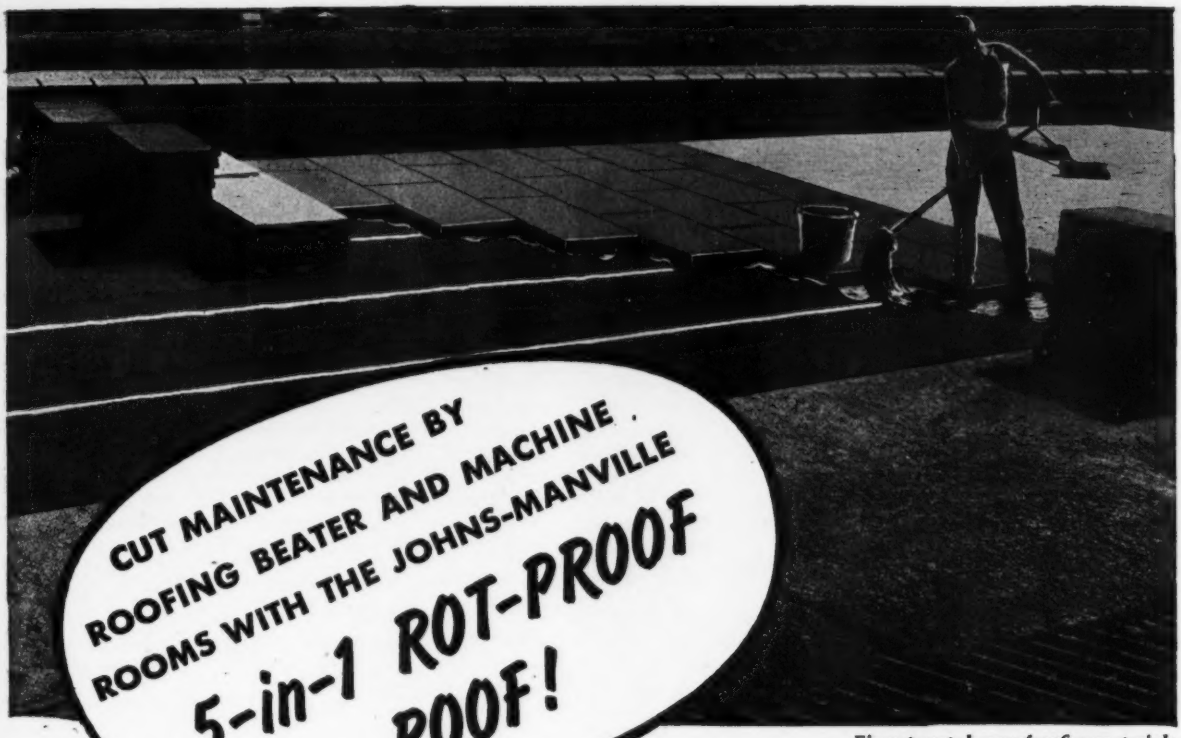
The chief obstacle to the standardization of the testing of materials for fastness to light has been the lack of standardization of arc lamps, which are generally used in making the test. Recent developments in this direction indicate that this difficult problem is nearing solution. In a summary of the situation by H. A. Lips *(9)*, he reviews the studies made by the Technical Section of the Paper Makers' Association of Great Britain and Ireland, and the light fastness committees of the American Association of Textile Chemists and Colorists and the American Society for Testing Committees (Note: study is also being made by the Optical Properties Committee, TAPPI). A partial solution of the problem being considered by the American organizations mentioned is the use of standard dyed paper or textile sheets having a fixed rate of fading for calibration of the lamps. C. A. Seibert, the chairman of the A.A.T.C.C. committee, discussed standards of this kind prepared by him and the way of using them. He also gives the results of exposures of them to a large number of lamps in different laboratories *(10)*. A more complete solution of the problem is offered by the development of a standard reference lamp at the National Bureau of Standards described by H. F. Launer in the Bureau's Letter Circular LC785. Dyed paper sheets made in the Bureau papermill are used for calibration of other arcs in terms of the reference standard arc. A survey made by use of the paper sheets of the relative fading abilities of 46 arc lamps in 21 different laboratories showed that the change in the reflectance of the sheets varied from 0.405 for the most powerful lamp to 0.092 for the least, which shows the great need for standardization of lamps.

A rapid method of evaluating paper coatings and glassine laminations by ultraviolet light was described by W. T. Diffenbach *(11)*. Coatings and laminations are said to show a characteristic fluorescence when viewed under the light which is uniform on evenly applied films, whereas defects or unevenness of application is revealed by darker patches or streaks. V. G. W. Harrison discussed the definition and measurement of gloss and smoothness. Included is criticism of the chief methods in use at present *(12)*.

Several publications dealt with testing for water vapor permeability. L. Boor and J. K. Dixon described the application of a thermal conductivity method. A comparison of it with the methods most commonly used was made, and they concluded that it has certain advantages over the others, one advantage being the shorter time required for testing *(13)*. An apparatus for a "rapid, precise and reproducible" determination was described by P. M. Doty, W. H. Aiken, and H. Mark. The permeability is

*Presented by title at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 25-28, 1946.

[1]Member TAPPI; Chairman, Paper Testing Committee of TAPPI; Chief of Paper Section, National Bureau of Standards, Washington, D. C.



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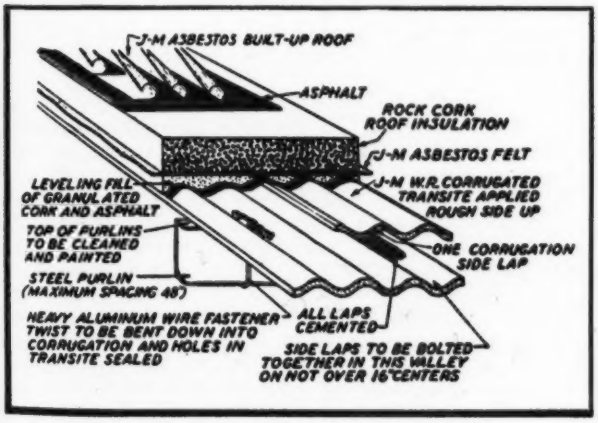
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estimated from measurements of diffusion velocity and solubility *(14)*. R. T. K. Cornwell developed a humidity cabinet wherein test cells prepared according to the TAPPI method can be weighed without removing them from the cabinet. It is stated that the test can be completed within a few hours *(15)*. A Noll uses a dessicator containing sulphuric acid with water in the test cells *(16)*. In an article by A. W. Schwab, L. B. Falkenburg and J. C. Cowan a method is described which is said to be a combination of the best features of a number of other methods in use for making the test at high temperature and humidity. The test cell containing a dessicant is placed at 100° F. over saturated potassium sulphate *(17)*. The Institute of Paper Chemistry, in its Instrumentation Report LI, gives a bibliography of methods for measuring vapor and gas permeability, including material up to April 1, 1945.

A method for measuring permeability to carbon dioxide was described by D. J. Edwards. It is an adaptation of the cell method commonly used for water vapor permeability. An absorbent for carbon dioxide, such as soda-lime or Ascarite is used in the cell which is exposed to an atmosphere of carbon dioxide *(18)*.

W. Helmut and E. L. Skan described a tensiometric method for evaluating the surface wettability of fabric and paper samples by measurement of the contact angle. The contact angles corresponding to various tensiometer readings are derived experimentally and are shown to be in agreement with values deduced from theoretical considerations *(19)*. A pen and ink test for sizing of paper was devised by B. W. Smith. Test inks of varying characteristics are applied to the paper and the degree of feathering is observed *(20)*.

T. J. Nelson described a test for paper bags. The bags are placed horizontally, a wide iron pipe is placed upright on the flat side of them and an iron shaft is dropped through the pipe from different heights onto the bags. The height of drop of the shaft causing puncture of the bags is determined *(21)*. Two articles give results of an investigation being made at the National Bureau of Standards for the purpose of assisting in the development of standards of quality for analytical filter papers. One described an improved method developed by H. Bogaty and F. T. Carson *(22)* for measurement of rate of flow of water through the paper. The use of complicated apparatus for making the measurement was avoided by applying Darcy's law to the ordinary conical filter. Prefiltered water was found necessary for satisfactory reproducibility of the measurement. In the other article, B. W. Scribner and W. K. Wilson *(23)* describe additional improved methods for retention of fine precipitates and for ash. The other tests considered of value are bursting strength of wet paper, weight per unit area, alpha cellulose, copper number, and acidity (pH). The last three named are of importance with respect to the purity of the cellulose and the stability of the papers.

B. W. Scribner gave his annual reports dealing with the developments in physical testing of paper *(24)* and the activities of the Paper Testing Committee of TAPPI *(25)*.

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Paper Testing Committee Report - 1945*

By B. W. Scribner[1]

The committee completed during the year four new methods and three revisions, of which the following have been published in *Paper Trade Journal* of the dates given:

T 467m-45 Paraffin Wax Absorptiveness of Paper (Feb. 15, 1945); T 410m-45 Basis Weight of Paper and Paperboard. Revision (April 19, 1945); T 470sm-45 Edge Tearing Resistance of Paper (Nov. 1, 1945); T 451m-45 Rigidity, Stiffness, and Softness of Paper and Paperboard. Revision (Nov. 15, 1945); T 460m-45 Air Resistance of Paper. Revision (Dec. 6, 1945); and T 469sm-45 Flexural Resistance and Deflection of Fiberboard (Dec. 27, 1945).

An additional new method being considered by the Standards Committee is for testing analytical filter papers.

The method for paraffin wax absorptiveness was developed by a subcommittee of technicians of the waxed paper industry under the chairmanship of S. C. Fairbanks, Hamersley Manufacturing Company. The method is for testing waxing papers to find the amount of wax required to saturate the paper without producing any surface film. The test specimen is placed between two sheets of waxed blotting paper and the pad thus formed is placed between two steel plates, and the whole is heated at 105°C. The gain in weight of the test specimen gives the amount of wax absorbed. The sub-committee now has under development a method for blocking of waxed paper, that is, the sticking together of sheets of it.

The method for basis weight was changed to provide instructions for testing paperboard.

The revision of the method for air resistance and the method for edge tearing resistance were developed in essential details by Subcommittee 1, Committee D-6, A.S.T.M.

*Presented by title at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 25-28, 1946.

[1]Member TAPPI; Chairman TAPPI Paper Testing Committee; Chief of Paper Section, National Bureau of Standards, Washington, D. C.

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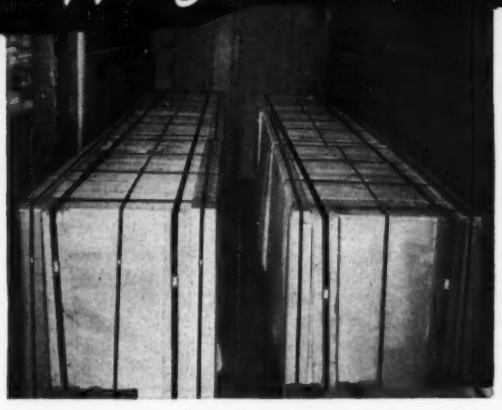

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The important change in the method for air resistance is modification of the standard testing instrument for inclusion of a gasket to minimize leakage of air. For most papers, this makes an appreciable change in the test values. Existing instruments can be modified in this manner at nominal cost. The method for edge tearing resistance was developed by J. M. Finch, Bell Telephone Laboratories. The test is made with a stirrup device which is attached to the usual type of paper tensile tester. Finch's data show the following advantages over the Elmendorf instrument for certain materials:

1. There is a straight-line relationship between the Finch edge tear and the Elmendorf tear for sheet materials that have little difference in edge tearing resistance and internal tearing resistance such as ordinary fibrous papers. For materials that have been so made as to have a high resistance to edge tear, this is reflected in the edge tear test but not in the Elmendorf test. An example is slot insulating paper laminated with cellulose acetate sheeting.

2. The Finch edge tear test applies a tearing stress which is similar to the tearing stresses developed under ordinary use conditions and in industrial processing operations. The latter include the winding of paper or cellulose tape on wire and the application of paper armature slot insulation.

3. It is satisfactory for testing high-tear strength, long-fibered cylinder machine papers while the Elmendorf is not always satisfactory for this use because in the latter test this type of paper often splits between cylinder layers resulting in ficticiously high values. In making cross machine Elmendorf tear tests on cylinder paper the direction of the tear usually deviates to the machine direction, producing a tear of excessive length resulting in abnormally high test results.

The method for rigidity, stiffness, and softness was revised to add a description of a modification of the testing instrument to provide for the testing of materials that creep appreciably during the interval between reversals of the test specimens.

The method for Flexural Resistance and Deflection of Fiberboard, T 469sm-45, as published in the July 12, 1945, issue of *Paper Trade Journal,* was withdrawn because of objections of manufacturers of building boards to specification of a nonstandard diameter of the cylinders of the testing device, and because the use of nonstandard spans of test specimens was permitted. The method was revised in these respects.

The proposed method for testing analytical filter papers is based on testing procedures described in Research Paper 1613 of the National Bureau of Standards, Methods for the Evaluation of Filter Papers. Improved procedures are described for determination of rate of flow of water, retention of fine precipitates, and content of ash. A procedure for bursting strength of wet paper is also given. The other tests specified, which are made according to the TAPPI Standard Methods, are thickness, weight per unit area, alpha-cellulose, copper number, and acidity (pH). From the thickness and weight the density can be calculated. The other tests are of importance with reference to the purity of the cellulose and the stability of the papers. As has been found by the Bureau for papers in general, filter papers that had become brittle on aging were characterized by low alpha-cellulose and high copper number, evidences of degraded cellulose. These were acid-washed papers and it is probable that the acid treatment was either too severe or that the acid had not been entirely washed out, as acid is very deteriorative to paper. In some instances brittle paper had a high acidity. Another consideration with respect to degraded cellulose is that it is soluble in some solutions.

The Subcommittee on Writing and Erasing Properties of Papers, of which P. W. Codwise, Beaver Wood Fibre Company, is chairman, completed a proposed method for erasing quality of paper with respect to writing ink, and this is under consideration by the Paper Testing Committee. A report by him of the investigation which resulted in the development of the method was published in the February 22, 1945, issue of *Paper Trade Journal.* Erasures of standard ink are made under standardized conditions in a mechanical abrading apparatus, using silicon carbide cloth as the abrading medium. The ease of erasure is measured numerically and the amount of paper stock removed during erasure is determined. Observations are made also of the degree of fuzzing of the surface of the paper and the writing quality of the erased surface. Study to adapt the test to other kinds of ink is being made by the subcommittee.

At the end of 1945, there is a total of 69 TAPPI methods for testing paper and paperboard.

The correlation of TAPPI and A.S.T.M. methods by means of the Joint Committee of the two organizations, continues to function satisfactorily. As usual, this has necessitated many minor changes in TAPPI methods which will be included in the next printing of them in the standard loose-leaf form.

Encyclopaedia of Chemical Reactions

The Reinhold Publishing Company has issued the first volume of a series of the Encyclopaedia of Chemical Reactions, compiled and edited by C. A. Jacobson of West Virginia University. This is a monumental work backed up by twelve years of research and preparation (Vol. 1, 800 pp. 6x9). The first volume covers the elements aluminum, antimony, arsenic, barium, beryllium, bismuth, boron and bromine.

Page after page is devoted to chemical equations. For example, the first states: Metallic aluminum vigorously reduces molten silver chloride forming silver and aluminum chloride. $3AgCl + Al \rightarrow AlCl_3 + 3Ag$ (authority A Cossa, Atti. dell' Instuto Ven. III). (Ref. A. Lieben, Ber., 3,368 (1870). This procedure continues for 3073 reactions. 114 abstractors assisted in the preparation of the first volume. There is an index to reagents and an index to names of compounds, both organic and inorganic.

An encyclopaedia of this kind has been needed for a long time and Dr. Jacobson is to be commended.

Copies may be obtained from the Book Department of the Technical Association of the Pulp and Paper Industry, 122 East 42nd Street, New York 17, N. Y., at $10.00 per copy.

Kenneth E. Burgess

Kenneth E. Burgess, Director of Technical Research of the Magnetic Pigment Company, Trenton, N. J., died on February 16, 1946. Mr. Burgess was born in Ontario, Canada on October 6, 1889 and graduated in chemistry from the University of Toronto in 1913. He was formerly employed by the Atlas Power Company, the Zapon Company and the Van Schaak Chemical Works. He was a member of the Technical Assn. of the Pulp and Paper Industry.

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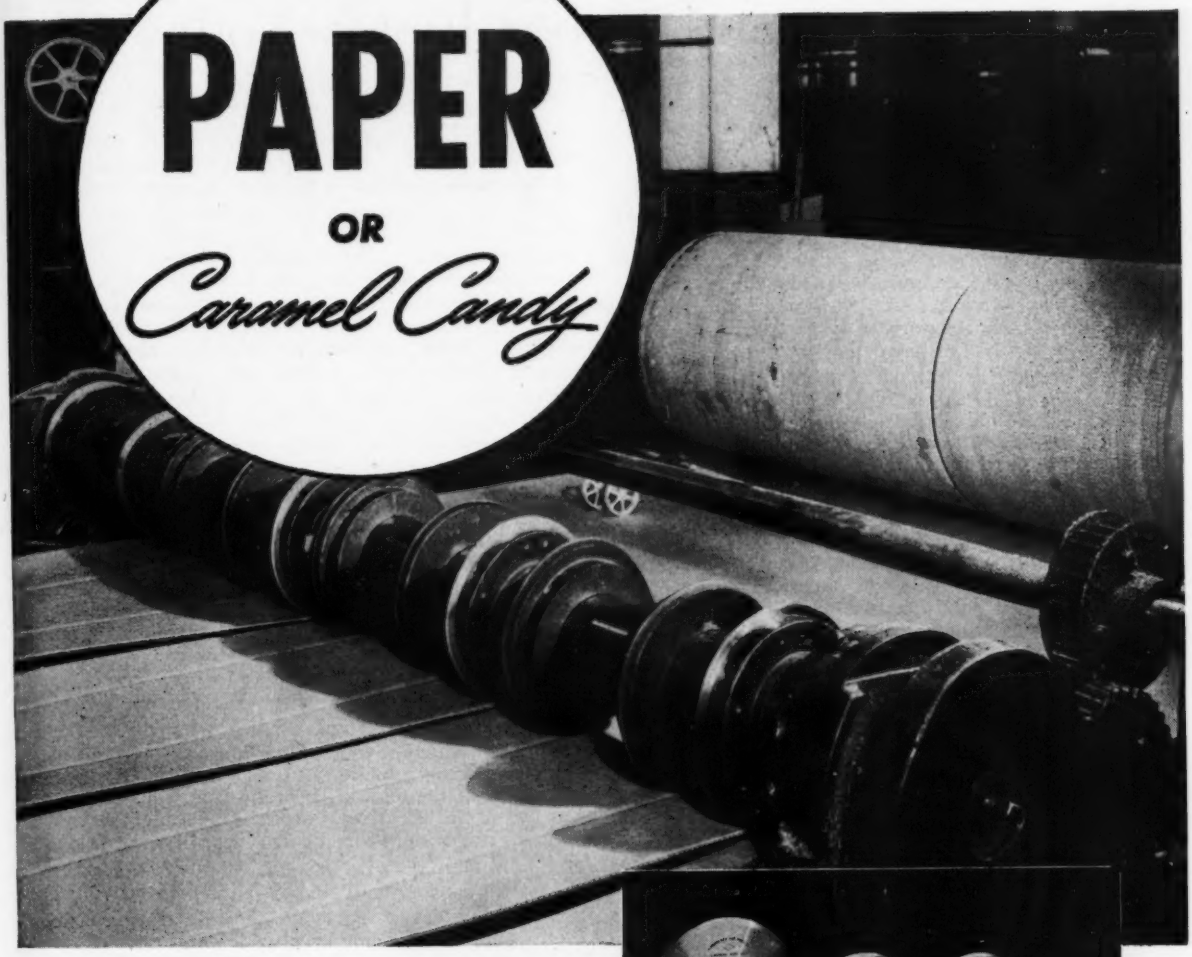

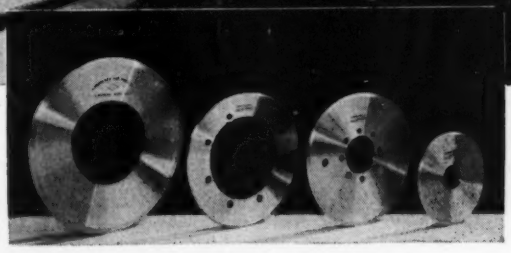

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The Sulphite Process—Its Position in Chemical and Paper Fields Today*

By Rex Vincent[1]

Abstract

A statistical review of sulphite pulp production indicates that sulphite pulps, while being affected by bleached sulphate production, are not yet being heavily replaced. The problem of the sulphite integrated mill is paramount and several directions for a possible solution are indicated. The position of the sulphite pulp in the chemical converting field, is, as yet, unchallenged. It is indicated that the future of the sulphite process is dependent upon the solution of their wood and recovery problems.

The sulphite process for the delignification of wood has been practiced for many years, millions of tons of wood pulp have been produced with it, and, in spite of what the sulphate process adherents say, it will be practiced for many more years. The death knell has been sounded by many persons but the patient refuses to die. It seems, from the statements made by some experts, that it is only a matter of a few years before a piece of paper made from sulphite will be found only in a museum and if their statistics are examined it cannot be denied that, possibly, they have a case. It is proposed now, to examine that case from the viewpoint that sulphite pulps and papers are still being produced. Every effort will be made to analyze all the statistics and the patient will not be pronounced dead until he ceases to breathe.

Production

One of the prime arguments of the sulphate process adherents is the recent expansion of the sulphate industry. This growth has been so rapid and has reached such a peak that it is phenomenal—nothing like it ever happened before in the paper industry. In 1932 the United States produced just over a million tons of sulphate pulps; ten years later nearly 5 million tons were produced. In that same period sulphite production advanced from 1,145,000 tons to 2,900,000 tons. Suppose, for purposes of comparing these figures, they are reduced to ratios, calculating the ratio between the production for the latest year and the initial year. The ratio can be called "ratio of expansion" and for sulphate pulps over the period used above it is 4.7, while for sulphite it is 2.6. Comparing these figures compares the rate of growth of the two processes and it is obvious that sulphate has expanded nearly twice as fast as the sulphite process in that period but notice that sulphite production had nearly tripled.

Examine that expansion of kraft pulps to see where it was consumed for that makes a great deal of difference, especially when it as borne in mind that this pulp expansion was fathered by an insistent demand for certain papers and boards. In 1944 there was a total production of sulphate pulps of slightly over 4.5 million tons. Of this total, 3,150,000 tons were consumed as unbleached kraft in the mills that made the pulp. This pulp then, went into boards, wrapping and bagging papers, and sack papers—materials that never have been produced from sulphite pulps. For reasons of requirements and economics, they could not be made from any pulp but sulphate and as the demand for them increased the pulp had to be obtained and it had to be obtained as cheaply as possible. Thus, the reasons for the Southern expansion became more and more insistent and as the development went on it was found that pulps which had been used were, in many cases, too high in quality, and corners were cut which reduced costs and enabled the materials to be offered to a still wider market. The expansion in this way fed upon itself. But this large segment of the 1944 kraft production—70%—can hardly be used in the argument that the days of the sulphite process are numbered, because it is being used in a field where sulphite never was used.

However, there is another part of that total figure which, also, in all fairness, must be examined. In the same year, 1944, there was a production of 865,000 tons of bleached and semibleached krafts which was divided into 720,000 tons consumed by the mills which made it and 145,000 tons produced for the market. It is this production which the sulphate process people say is replacing sulphite but notice that it amounts to only 19% of the total kraft production. This segment has had a rate of growth which was so high that the ratio of expansion for the ten years between 1932 and 1942 is 13.0 and it is the rate of growth rather than the tons produced that is pointed to by the experts as they say it represents the rate at which sulphite pulps are being replaced. This cannot be shrugged off! It is causing the sulphite people some concern and they are getting ready to do something about it. But it must also be pointed out that this expansion was aided in many respects by the times during which most of it took place. A part of it came about through the shortage of wood pulp caused by the war with the resultant full use of bleaching facilities already installed. The bleached krafts rushed in to fill the gap caused by the withdrawal of sulphite pulp for other uses. If there had been sufficient sulphite pulp to handle the war effort in the field of smokeless powder and paper too, that rate of growth of the bleached pulps might have been a little different. No one can predict how far the pendulum will swing if normal market conditions prevail, as the bleached kraft pulps have many problems to meet before they can be used in the quantities in which bleached sulphite is used.

Market and Integrated Pulp

Up to this point the discussion has used figures for totally produced pulp only, but to complete the investigation these figures must be broken down into market pulp and integrated pulp. The market pulp in the United States is not a small factor as many papers and boards are almost entirely produced in mills which must buy their pulp in the open market.

*Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 25-28, 1946.

[1]Member TAPPI, Technical Consultant Bulkley, Dunton Pulp Co., Inc., New York, N. Y.

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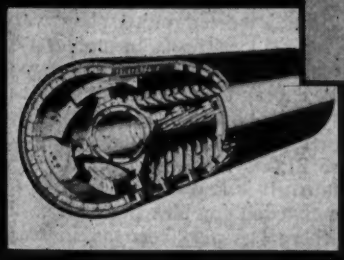

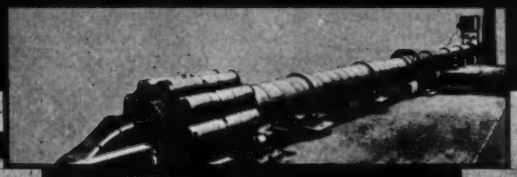

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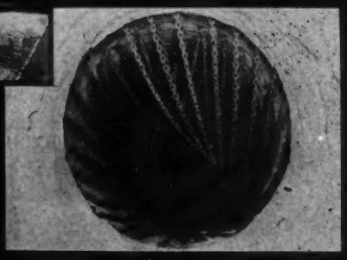

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These mills are not hindered by a pulp mill which can produce only a certain type of pulp but are free to exercise a selection in tune with their requirements from time to time. They are able to shift faster than the integrated mills and these shifts should be reflected in the statistics for market pulp sales. However, it must be brought out that recent statistics for this phase have been affected by the allocation program and the influence of such war demands as smokeless powder. Also there is no regular production of semibleached sulphate for the market in this country so the bleached kraft figures refer to the full bleached pulps only. Another factor is that market pulp figures must include the imported pulps which were and probably will be a major factor in such considerations as these.

If the domestic sales of pulp are examined perhaps a different view will emerge from the one developed from total production figures. Market sales by American producers of sulphite pulps rose from about 400,000 tons in 1935 to 1,228,000 in 1941, and then fell to 943,000 tons in 1944. Up to 1941 the ratio of expansion was 3.07 and if calculated up to 1944 the ratio becomes 2.3. This ratio of 3.07 compares rather well with the one for kraft over nearly the same period which was 4.7. Breaking these figures down into the bleached and unbleached components, it is found that unbleached sulphite rose from 82,000 to 460,000 in the period 1935-1941 which gives an expansion ratio of 5.6, higher even than the kraft expansion for that period. Bleached paper grades went from 257,000 to 571,000 or a ratio of 2.2, but note that this refers only to paper grades of bleached sulphite. Since 1941 both these categories have declined in production and the expansion ratio as calculated from 1935 to 1944 would be 2.3 for unbleached sulphite and 1.3 for bleached. This production decline has been due almost entirely to conditions caused by the war and in no way reflects any decrease in facilities for producing these pulps. In market sales of sulphate, the figures are very similar to those for totally produced sulphate as they rise from only 8,000 tons in 1935 to 377,000 tons in 1944 which is an expansion ratio of 47, but here it must be pointed out that this increase in domestic sales of sulphate was made possible by the shutting off of imports and by the diversion of integrated pulp into the market by the allocation program. Market sales of bleached sulphate have shown a very remarkable rise as they were only 1,500 tons in 1935, 75,000 in 1940, and 99,000 in 1944. This parallels the expansion of totally produced bleached sulphate which increased considerably during the war years.

The rated capacity for all these pulps reached their peak in 1943 and have been declining since then. The increase in kraft capacity has been terrific since 1937, practically doubling in the seven years to 1944, while sulphite capacity changed very little. There has been a considerable conversion from unbleached sulphite to bleached which is shown by the greater decrease in unbleached production than in bleached without a corresponding decrease in total capacity. The market pulp figures do not indicate as positive a shift as do the total pulp statistics and this emphasizes the conclusion that most of the kraft expansion has been made for integrated production. This point is further shown by comparing the market sales of sulphite and sulphate. In 1939 there was twice as much sulphite sold as sulphate, but in 1943, in spite of the terrific expansion of sulphate pulps, there was two and a half times as much sulphite sold. There is no escaping the conclusion that integrated production is shifting away from the sulphite process and this is due fundamentally to the development of the bleached sulphate grades. In market sales, sulphite, although faced with a rapidly expanding kraft usage, is holding its own.

Since this kraft expansion is largely for integrated production and has taken place almost entirely in the South, it seems that economics and wood supplies determined which process would be used rather than any inherent advantage that one process possessed over the other. The South offered large areas of timber for the expanding demands, and for paper and board grades of pulp there was not much choice as to the process—the species of timber settled that question. Those using the sulphate process have long pointed out that the wood species for sulphite are limited and the quality must be high, while the sulphate process can cook almost any kind of wood without being too particular as to its characteristics. Areas which have been providing spruce for sulphite mills were now ready to supply kraft mills with pine and it has been pointed out that this flexibility of demand for raw material would continue to become more and more valuable as prime timber becomes less accessible. But notice that when it was decided, by one company, to produce a purified cellulose from Southern timber, the sulphite process was used and not the sulphate.

Imports

There remains now for examination, the imported pulp figures and here again statistics present a problem for they simply do not exist after 1940. Unbleached sulphite has shown a remarkable steadiness in the imports. From 1927 to 1939 the average tonnage on this pulp was about 700,000 tons. The only year it deviated widely from this figure was in 1939 when it rose to 919,000 tons. Bleached sulphite rose slowly up to 1940 and then barely held to 350,000 tons as Canada tried to make up what was lost by the war. In short, the figures on imported pulps show very little change in the over-all pattern. In unbleached kraft the same thing is evident—a steady importation of about 430,000 tons a year that broke out in 1936 and 1937 when it went above 600,000 tons. The bleached kraft imports, however, started rising in 1930 when they were 21,000 tons and by 1937 they were up to 111,000 tons. It is known that there is an increased capacity in Sweden for bleached and semibleached krafts but there has also been an increase in capacity for bleached and dissolving grades of sulphite. The most significant change in the Swedish pulp industry has been the increase in dissolving pulp capacity which has now reached nearly 600,000 tons and all this is based on the sulphite process.

It could hardly be construed that the foregoing statistical review produces a gloomy picture for sulphite. It is true that the small integrated mill, based on the sulphite process, has a problem, but the problem finds its base in wood rather than in the process itself. In the larger, newer units, which are backed by satisfactory timber reserves, there is no inclination to abandon the process and there is an excellent chance that the use of the process will be expanded, although perhaps not for paper.

Other Uses for Sulphite Pulp

The war period, which has just been endured, made it painfully obvious to paper producers that their demands were not the only ones being made upon wood pulp. One of the reasons for the acute shortage of pulp during the war was the large quantity diverted

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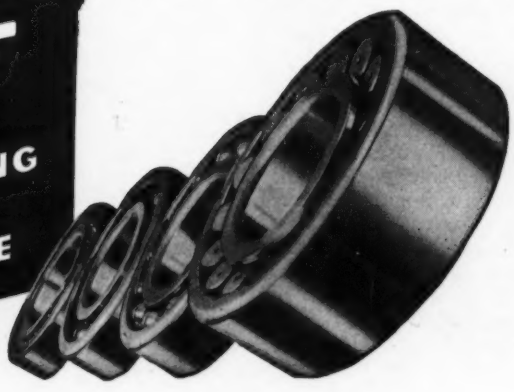

to the manufacture of smokeless powder. At the peak of this consumption, wood pulp was being used at the rate of almost 60,000 tons per quarter. This is not a large quantity when compared to the total sulphite produced but it is a large slice of the entire market production of bleached sulphite in the United States. Thus, there is a field for wood pulp where the sulphite process is, today, unchallenged—the so-called dissolving uses where pulp is used as a chemical raw material and not as a building material. These uses are growing rapidly and are dependent entirely on sulphite. The paper industry, by and large, hears very little about these other consumers of pulp and the quantities they require and how they are growing. That is sufficient reason for going into their consumptions in some detail. Also, the future of the sulphite process is being discussed and this segment of the consumption group seems to be of rising importance.

By far the largest consumer of refined cellulose is the rayon industry, both viscose and acetate, and currently all the refined cellulose is being produced by the sulphite process. In 1932, to use the same periods as were used for comparison of paper pulps, rayon used 43,000 tons of wood pulp. In 1942 they used 280,000 tons which gives an expansion ratio of 6.5. During that time pulp increased from 60% to 85% of the raw material used. The production of the industry has been increasing at the rate of about 30,000 tons per year since 1938 and expansions are still going on. These expansions affect pulp very directly and they are not only expansions in capacity but in the use of wood pulp. Up to 1939 the acetate process was practically exclusively using cotton linters but the development of an acetate pulp at the time further increased the use of wood pulp and today nearly all acetate for rayon is made from wood pulp with cotton linter pulp being used only for very special purposes or to fill in the gap. As time goes on and the expansions are felt in the consumption of textiles, rayon goods will be competing with treated cottons, nylons, and fabrics from the plastics field such as vinyon. Glass fibers are in the game too. Somewhere in the balance between price and requirements, this rayon expansion will stop but it is felt that there will soon be a demand from this industry approaching 350,000 tons annually.

Cellophane is closely linked to rayon because of the similarity of the processes and also because of its rate of growth which has paralleled that of rayon. This material is currently consuming about 60,000 tons per year and expansions are underway which will raise that figure to almost 90,000 tons. For comparison, this is almost as much pulp as is consumed by the glassine and greaseproof papers. The cellophane people are aggressive and by means of improvements in their process, such as continuous steeping, they hope to bring the material, on a square foot basis, even with waxed paper. In other words, a dollar will provide just as many square yards of cellophane as waxed paper. Cellophane has other competitors than waxed paper or glassine—Pliofilm and Koroseal, for example, and it is likely that they and other similar materials will take over the tough wrapping jobs such as machine parts.

Nitrocellulose should come next in these considerations as it is one of the oldest plastic base materials known. Combined with camphor it makes that old timer, celluloid. It is still an excellent material and the primary objection, inflammability, has been considerably reduced in recent years. It has never been equaled for wearing quality in film and very few plastics can equal its toughness. Many authorities in the plastics field have been predicting that this material is on the way out but actualities prove them wrong for its production is increasing and in the near future it will be consuming as much as 35,000 tons annually.

There are many other uses and derivatives that are using wood pulp either directly or as a source of cellulose. The urea-formaldehyde resins employ it as a filler, it is used directly in medical absorbents and sanitary napkins, it is a raw material for methyl and ethyl cellulose, and to some extent for the acetate molding powders. All these will require about 70,000 tons per year and this, with the major uses spoken of, totals up to approximately 550,000 tons. Any pulp of this type which is exported will increase this figure. Take a round figure of 600,000 tons which assumes an exportation less than that before the war and see what this amounts to.

Future Development

First, it exceeds the current North American capacity for this type of wood pulp. Secondly, it amounts to about 20% of the total sulphite capacity and about 33% of the bleached sulphite capacity. If those demands are met from North American supply sources, some mills now making sulphite for paper will be making the dissolving grades or new mills will be built—probably both. The market mills can switch from paper to refined cellulose gradually without losing much time and are apt to do just that as prices for those grades move upward and become more attractive. The integrated mill now based on the sulphite process has a different and more difficult problem, the solution of which requires active and continued research.

These mills have several angles of approach to their problem which have been already opened but they can hardly sit by and see what "George" will do before they begin. First there is the problem of wood supply which has been mentioned previously and this is receiving a great deal of attention. It is not known exactly when hardwoods first were cooked in the sulphite process but this probably started in Continental Europe where the depletion of spruce occurred quite some time ago. Pulps of this nature—that is, a mixture of spruce and such hardwoods as beech and birch—began to arrive in this country in the latter years of the depression and found an appreciative market in book papers. Later, several American mills began to cook hardwoods on the sulphite process to the extent where these pulps were available on the market. The development proceeded until, eventually, cellophane pulp was being produced from hardwoods and, in Europe, rayon pulp was being made. There are no clear figures to show just how much hardwood is being cooked by the sulphite process today, but it is known to be increasing and, thanks to the Forest Products Laboratories, will probably increase in the future at a faster rate. There are some figures available on poplar and they show about 600,000 cords being used in 1940, but there is no differentiation there as to process and the figures for more recent years are not clear. The same approach is being used on the West Coast where they are cooking more and more white fir and where they are extending the limits of their timber reserves through the use of hydraulic barking and whole log chipping. Thus, while it may not be possible to completely eliminate the wood problem for sulphite, the reserves of spruce and hardwood can be extended considerably.

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A second method of solving the integrated mill's problem is through recovery of chemicals and utilization of the fuel value of the waste products. Two of these systems, the magnesium and ammonium base systems, are covered in detail in other papers, which precludes any detail concerning them here. They are both untried on commercial scales in America but pilot plant work, on the magnesium base at least, indicates a better recovery of chemicals and heat than can be obtained in the sulphate recovery systems. The ammonium base idea has been used by one mill in Norway with some success. Still another base is being used in Sweden and that is sodium. This system enables the process to accept a rather wide range of wood species and qualities and provides for a considerable variation in characteristics of the pulp. There is an additional method which has had considerable success in Sweden and that is the system for evaporation of calcium base liquor. This has been perfected to a rather high degree during the war and it is believed that engineers from the companies controlling the process are in this country now. This system has been worked out for the typical Swedish mill of from 80 to 100 tons per day and it is claimed that a mill of that size can almost be balanced out for fuel. In units of larger size there is a complication resulting from the ash, the disposal of which is a major problem.

With these two possibilities, wider use of different wood species and use of recovery systems, the small sulphite mill could get a reduction in costs and a means of varying pulp properties. There is still a third approach which is not as advanced as the recovery systems and that is the process indicated by the Forest Products Laboratory's work on holocellulose. This process is a variation of the analytical method for the isolation of holocellulose which is the entire carbohydrate fraction of wood. Pulps produced by this method possess high hemicellulose contents and by virtue of that have some very interesting properties. The yield is much higher than that obtained by the usual sulphite process and estimates of costs, as made by the Laboratory, are within the range of commercial practice. This work has not yet been reported as being in the pilot plant stage but indications are such that it certainly should proceed to that point shortly.

These things will not be neglected, economic pressures will not permit them to be, and they will bring new life to a process which is far from death. The demands on the sulphite pulps from the purified cellulose industries will be a further spur and everyone can rest assured that sulphite pulps are going to be around a long, long time.

Surface Active Agents

The Chemical Publishing Company has recently issued Surface Active Agents, Theoretical Aspects and Applications, by C. B. F. Young of the Clark Babbitt Industries and K. N. Coons of the National Southern Products Company (381 pp. 5½ x 8½). Methods of determining surface tension are described and apparatus used as illustrated. There is a comprehensive list of wetting and other surface active agents, giving chemical constitution, the industrial use as well as name and address of manufacturers.

Copies may be obtained from the Book Department of the Technical Association of the Pulp and Paper Industry, 122 East 42nd Street, New York 17, N. Y., at $6.00 per copy.

Pacific TAPPI Meets at Longview

One of the most successful meetings to date of the Pacific Section of the Technical Association of the Pulp and Paper Industry was held at Longview, Wash., on February 5, 1946. A record attendance of about 175 men registered for the afternoon session at the Longview Women's Club to participate in the Technical Session planned by the able Vice Chairman Geo. H. Gallaway, Crown Zellerbach Corporation, Camas, Wash.

Chairman H. W. Bialkowsky, Pulp Division, Weyerhaeuser Timber Co., Everett, Wash., introduced the first speaker, Oliver P. Morgan, Pulp Division, Weyerhaeuser Timber Co., Longview. Mr. Morgan's paper, "Viscosity Control in the Production of Bleached Pulp" was presented in competition for the Shibley Award. He explained in detail the use of the viscosity test as a control test at the Longview plant. Of particular interest is the fact that through the use of tables and a simplified technique, the viscosity test can be made by operators without special training. Mr. Morgan's paper was well received by the group and resulted in an interesting discussion period.

Chairman Bialkowsky next introduced Paul M. Dunn, Dean of the School of Forestry, Oregon State College, who acted as Moderator for the panel discussion on "The Utilization of Wood Waste." Dean Dunn outlined the problem briefly in his introductory remarks and then presented the first panel speaker, Prof. Bror Grondal, College of Forestry, University of Washington, whose paper was entitled "Source, Kinds and Mechanical Utilization of Wood Waste." Prof. Grondal's paper was in the nature of a progress report on the continued work he has undertaken over a period of years on the subject of wood waste. His department conducted a study of a number of ¼-acre plots in typical forest areas in the state of Washington and cataloged the waste material left on these plots, after logging. A number of interesting suggestions was offered for the mechanical utilization of waste wood and the economic aspects of the several processes involved.

C. W. Richen, Forestry Dept., Crown Zellerbach Corporation, Portland, continued the discussion with his paper, "Mechanical and Economic Problems in Handling Wood Waste." Mr. Richen's paper was a detailed report on actual clean logging operations which have been used by the Crown Zellerbach Corporation for several months in two logging areas in Oregon. These operations as described by Mr. Richen will no doubt serve as a guide post for similar future operations by other mills.

Glenn Voorhies, Wood Products Co., Portland, next discussed the problem from a different angle in his paper, "Source, Kinds and Mechanical Utilization of Mill Waste." After enumerating the kinds and quantities of waste resulting from ordinary saw mill and pulp mill operations, Mr. Voorhies suggested a number of possible processes for utilizing this waste economically. He suggested the production of wood fibre wall and building board grades as being one of the best outlets for mill waste.

Dr. Arthur B. Anderson, Western Pine Association, Portland, concluded the panel with his paper on the "Chemical Utilization of Wood Waste." Dr. Anderson presented a detailed resume of the research work which has been done on the subject and the resulting practical commercial processes which have been developed. He then pointed the way for future research toward better utilization of the various chem-

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ical constituents of wood waste. He suggested the production of edible yeast fodder from wood sugars as being a very practical idea for study in the Pacific Northwest.

The meeting adjourned at 5:30 p.m. and met again at the Longview Country Club at 6:30 for dinner.

George W. Gleeson, Dean of Engineering, Oregon State College, was introduced to the group by Dr. Leo Friedman, Dept. of Chemistry, Oregon State College. Dean Gleeson's talk on "Technological Responsibility" proved to be a thought-provoking challenge to the technically trained men.

The TAPPI schedule for the remainder of the season includes a meeting at Bellingham, Wash., on April 2, 1946 and the annual Joint Meeting with the Pacific Coast Division of the Superintendents Association on May 17 and 18 at the Gearhart Hotel, Gearhart, Ore.

Those present included: C. E. Ackley, Lebanon; Fred E. Alsop, Portland; Arthur B. Anderson, Portland; C. A. Anderson, Camas; Leslie L. Anderson, Longview; L. W. Bailey, Longview; W. R. Barber, Camas; Laymon Bastian, Camas; C. T. Beals, Camas; Geo. H. Beisse, Longview; H. W. Bialkowsky, Everett; R. B. Black, Seattle; J. J. Bogner, Seattle; P. W. Brackett, Longview; R. A. Bremner, Portland; James B. Brown, Camas; A. M. Buck, Everett; R. A. Butler, Camas; Chas. L. Carns, Longview; J. G. Carson, Longview; R. E. Chase, Tacoma; A. L. Cheney, Shelton; Charles K. Clark, Longview; W. M. Clines, Seattle; Frederick Covell, Camas; J. V. B. Cox, Portland; R. R. Cox, Seattle; W. W. Clarke, Longview; Leslie Darr, Longview; Henry W. Dauterman, Longview; J. Bayard DesCamp, Shelton; Lionel E. Dowd, Longview; R. E. Drane, St. Helens; Paul M. Dunn, Corvallis; George E. Durkee, Shelton; M. L. Edwards, Longview; C. A. Enghouse, West Linn; A. E. Erickson, Longview; H. O. Ervin, Corvallis; E. E. Escher, Longview; A. K. Esterer, Longview; Carl Fahlstrom, Longview; W. L. Failing, St. Helens; Chester A. Fee, Portland; D. G. Felthous, Longview; F. W. Flynn, Camas; Leo Friedman, Corvallis; Dave Fulton, Portland; John M. Fulton, Portland; G. H. Gallaway, Camas; J. E. Garrison, Seattle; G. W. Gleeson, Corvallis; James K. Gould, Longview; Alfred Graef, Everett; Russell Graff, Longview; Richard F. Graham, Longview; John B. Grantham, Corvallis; A. S. Gregory, Longview; Bror Grondal, Seattle; R. N. Hammond, Longview; George A. Hansen, Longview; John F. Hart, Longview; L. R. Hartman, Everett; R. S. Hatch, Longview; H. A. Hauff, Longview; Jan Haugerod, West Linn; W. H. Haverman, Longview; S. E. Hazelquist, Longview; E. F. Heacox, Longview; R. M. Hendry, Tacoma; T. E. Heppenstall, Longview; H. R. Heuer, Longview; T. S. Hodgins, Seattle; C. F. Holcomb, Seattle; W. F. Holzer, Camas; James H. Hull, Camas; W. C. Jacoby, Camas; V. J. Jansen, Longview; J. E. Jeffery, Shelton; Lyal Jones, Longview; M. C. Kaphingst, Vancouver; James W. Kelley, Longview; W. N. Kelly, Longview; B. L. Kerns, Seattle; G. D. King, Camas; J. W. Klein, Longview; Don Knapp, Camas; E. F. Kurth, Corvallis; Harold Lange, Portland; K. H. Larkin, Longview; Carl F. Leitz, Longview; John LeTourneux, Camas; Gus Lorenz, Camas; Edwin L. Lovell, Shelton; F. P. Manen, Longview; Wm. W. Marteny, Camas; S. J. Maunus, Longview; J. L. McCarthy, Seattle; W. W. McCarthy, Longview; L. D. McClothlin, Camas; Loyd McDonald, Longview; John J. McNair, Longview; John G. Meiler, Tacoma; Otto F. Michaelis, Camas; George E. Miller, Vancouver; R. G. Mispley, Camas; O. P. Morgan, Longview; George O. Nelson, Camas; Art Newcomb, Camas; Emil Nixon, Longview; M. E. Norwood, St. Helens; George Nott, Camas; E. H. Nunn, West Linn, Ore.; Max R. Oberdorfer, St. Helens; J. H. Pestalozzi, San Francisco; Virgil V. Peters, Longview; H. T. Peterson, Longview; Wm. Pittam, Longview; J. C. Plankinton, Camas; Phimister B. Proctor, Corvallis; C. G. Reynolds, Empire; C. W. Richen, Portland; Robert W. Riley, West Linn; J. E. Robison, St. Helens; J. V. Savage, Camas; Fred L. Schmidt, Camas; Leon Semke, Camas; Roy Shaneman, Tacoma; W. J. Shelton, Longview; Brian L. Shera, Tacoma; D. L. Shinn, Camas; D. L. Shirley, Portland; A. P. Siebers, Longview; Ray Smythe, Portland; R. A. Snyder, Seattle; J. B. Sutherland, Seattle; V. M. Sutherling, Longview; Paul J. Thiess, Portland; R. M. True, Portland; Guy E. Uhlig, Longview; W. G. VanBeckum, Longview; R. O. Vognild, Tacoma; Glenn Voorhies, Portland; H. Jay Wagner, Longview; R. H. Wagner, Longview; Harold C. Wall, Longview; C. L. Walton, Longview; J. B. Ward, Tacoma; Ruth M. Watts, Longview; W. E. Wegner, Camas; J. W. Weiblen, Vancouver; L. A. Wendt, Everett; J. W. Wenge, Camas; E. N. Wennberg, Vancouver; W. A. Wenzel, Longview; R. S. Wertheimer, Longview; Jack Wilcox, Portland; John A. Wilcox, Longview; Albert Wilson, Seattle; R. P. Wollenberg, Longview, H. H. Wymore, Camas; Thurston L. Yocum, Camas; E. V. Young, Vancouver.

Niagara Falls TAPPI Abrasives

The Western New York Group of the Empire State Section of the Technical Association of the Pulp and Paper Industry held its regular monthly meeting at the Prospect House, Niagara Falls, Wednesday evening, February 13th, with 50 in attendance. B. J. Staneslow turned the meeting over to the chairman of the program committee, Dr. A. H. Nadelman, who introduced Francis Bowman, director of public relations of the Carborundum Company. He spoke on the history and development of abrasives throughout the last 54 years, placing special emphasis on the different types and grades of materials which go into the manufacture of abrasives. Following his talk, a film gave a story in pictures of the manufacturing processes and specialized applications of the Carborundum Company's products in industry.

William Barrett, of the same company, completed the evening's program by giving a talk on pulpstones.

Those present included: Lester W. Allen, W. W. Barrett, W. E. Beazley, F. D. Bowman, Howard F. Brown, Raymond F. Burke, Jack M. Cairnie, D. J. Campbell, J. Campbell, F. Casciani, P. W. Codwise, Walter F. Coleman, F. W. Decker, R. J. Farley, C. T. Fogarty, F. G. Gillis, E. D. Graves, A. D. Hamilton, Philip H. Hanrahan, A. C. Hayes, G. S. Henderson, J. A. Hoffmeister, Walter E. Jacobs, J. T. Jaeger, H. O. Kauffman, R. B. Landrigan, H. B. McAdam, R. McCully, R. L. McEwen, John Morrison, Alfred H. Nadelman, D. S. Nantz, George E. Norton, Edmund S. Nowiecke, W. M. Orchard, Mario C. Paglino, John E. Phillips, Thomas J. Redding, P. R. Rolleston, Robert D. Rusch, Otto Schiesser, Henry W. Schmidt, Arthur J. Smith, B. J. Staneslow, Frank S. Tolman, Clinton O. Webber, F. R. Webster, J. W. Youngchild.

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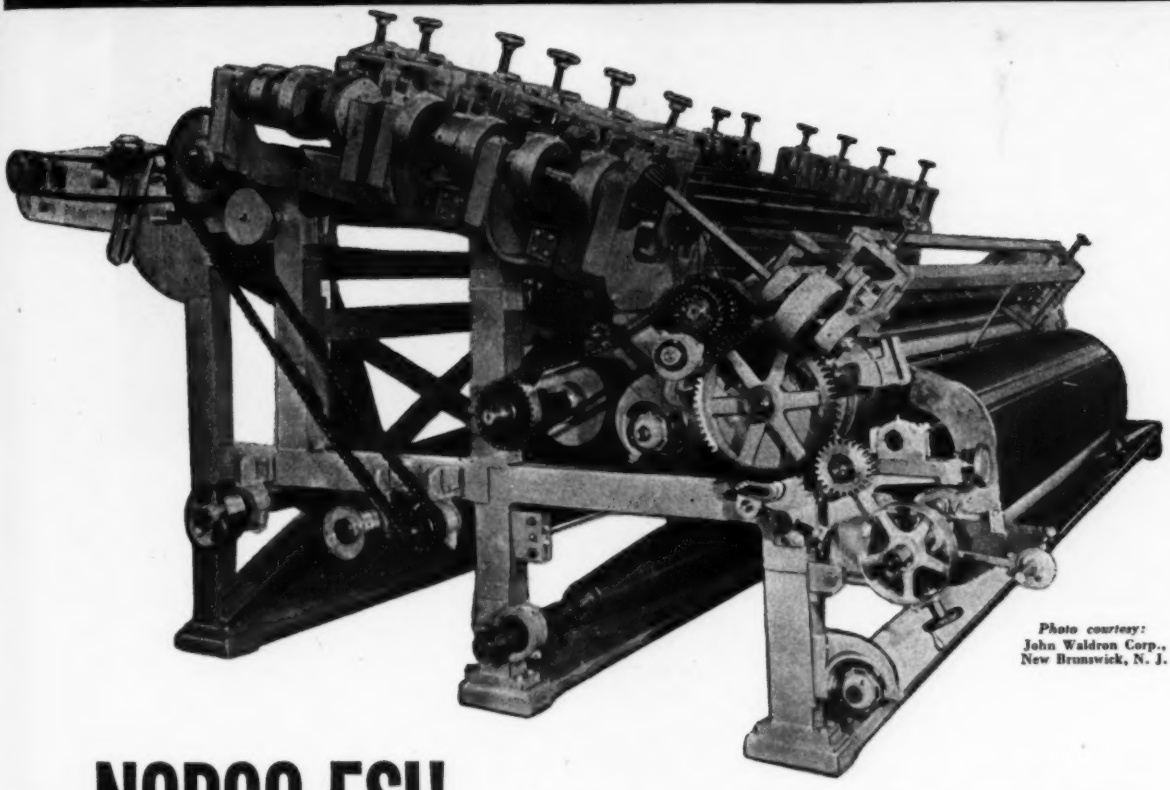

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1946 Tappi Medal Presentation

By James d'A. Clark

Mr. President, Ladies, and Gentlemen:

One of the rarer privileges of being a member of the Technical Association of the Pulp and Paper Industry is mine today, that of attempting to convey the appreciation of the membership to one who has made a distinct contribution to the success of the association and to one who has made so many friends among the technical men of the industry.

William G. MacNaughton was born and raised on a farm in the Province of Quebec. After matriculating and obtaining a high school teacher's diploma he taught school for awhile and did so well that he became its principal. He continued as such for a couple of years until he went to McGill University in 1897. There he was graduated with a Bachelor of Arts degree with first class honors, winning the Sir W. E. Logan Gold Medal in natural sciences. Three years later he received his Bachelor of Science degree in chemistry at McGill, again with honors, this time in organic chemistry.

It was during this period, while he was at the University, in 1902 in fact, that his introduction was made to pulp and paper by working for a number of months at the Canada Paper Company, Windsor Mills, Quebec. Fred J. Campbell, that grand old man of the Canadian pulp and paper industry, was then general manager as he was twenty-four years later when I too worked for awhile at Windsor Mills as chemist. When Mac was there, Judson A. DeCew was chemist. It is interesting to remark the large number of men in the industry who started or received some training with F. J. Campbell at Windsor Mills. That company was a paradise for the beginner, as it made almost every kind of paper—fine printings, tissues, various newsprints, cover papers, writings, and genuine kraft, as well as the bogiest of bogus krafts. Moreover, in the pulp mills, every known and unknown kind of pulp was made, from all kinds of raw materials, by the sulphite, soda, kraft, monosulphite, and groundwood processes, and various modifications thereof. It seemed as though every one with a new idea in pulp or paper manufacturing that appeared remotely practical found the sympathetic ear of Mr. F. J. Campbell.

Upon graduating from McGill he became, by force of circumstances, a chemist for a few years at the Canadian Rubber Company in Montreal and did very well indeed. However, his effective introduction into the art and mystery of papermaking at Windsor Mills proved too strong to keep him interested in rubber for very long. Perhaps he was also influenced to some degree by the nostalgia of D. Loran McGibbon who was general manager of the rubber company but who previously had been in charge of the now well known paper mill at Grandmere, Quebec. Thus in the fall of 1908 he decided to make a career in pulp and paper and became chemist for the Nekoosa Edwards Paper Company in Wisconsin. L. M. Alexander was then president and G. F. Steele was general manager. Mac, with marked enthusiasm for his newly adopted calling, progressed rapidly from chief chemist to general superintendent of the pulp and paper mills.

Always having been quite a philosopher, it became a practice to spend an hour or two after lunch, when things were running smoothly, with Clark Heritage who was chemist at the time and Ole Berger, the pulp superintendent, and to discourse upon the affairs of the world and state. One day the discussion swung to turtles and their remarkable longevity. Later that evening the finding of a small turtle in the vicinity proved too great a temptation for Clark and Ole. They proceeded to chisel a date, 1846, on its shell and cover the marks with mud. The next morning they surreptitiously placed it near a path frequently traversed by Mac. He, always observant, spotted it and took it to his office. Great was his delight when after cleaning it he discovered that there was a date inscribed on its back which apparently showed it had reached the ripe old age of three score years and ten. The turtle, of course, was surprisingly small for its indicated age, but nevertheless, in that afternoon's philosophic session it provided evidence that far from his claims for the longevity of turtles being scarcely credible, they were actually ultra-conservative.

W. G. McNaughton
Winner of TAPPI Award

In addition to the natural history of turtles, Mac's extra-curricular activities at that time were very satisfying for it was then that he participated in the organization of TAPPI with Harry Fletcher, Ernst Mahler, Bob Wolf, Harry Carruth, Ray Hatch, and other founding fathers. At the same time he was also on the advisory committee for the Groundwood Research Laboratory of Forest Products, which was established in Wausau, Wisconsin. It was there that J. H. Thickens, George C. McNaughton, and others carried out their now classic studies on the fundamental principles of grinding wood, covered by two U. S. Department of Agriculture Bulletins which are now collector's items.

In 1917, as it comes to most men sooner or later, Mac felt the call of the West and went to Spokane, there to spend several happy and effective years as vice-president and manager of the Inland Empire Paper Company.

With this further association with newsprint manufacture, it was not surprising to find him in 1920

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at Kapuskasing, Ontario. At that time the Spruce Falls Paper and Power Company, which since has become one of the outstanding papermaking centers of Northern Ontario, was being developed.

Later in 1921, Mac became the second secretary of TAPPI, succeeding our old friend, the late Thomas J. Keenan. The period he held office (1921 to 1927) saw a very large growth in the size and prestige of the association, the membership increasing from 525 to 766. This was due very largely to the skill and enthusiasm which Mac displayed. He has always had an uncanny knack of remembering faces, people, and their interests. This faculty served well in guiding the selection of committees, organizing meetings, and helping the members to become better acquainted in the rapidly growing organization.

Two new committees organized at that time have done especially commendable work—one in waste in industry and another in paper drying. The former made a thorough survey of industry and its resulting reports greatly stimulated action preventing waste. The drying committee completed its work with the publication of the Paper Drying Code.

The present publishing arrangement with the Paper Trade Journal started in 1921 and Mac became the technical editor of the Journal. The Service to Members Plan (TAPPI Special Reports on Manufacturing Problems) was put into effect, which publications now number nearly 365.

In 1924 the Technical Association published the first editions of Paper Testing Methods and Standard Methods of Testing Materials. In 1925 studies in stream pollution were initiated. These studies have since mounted to great proportions and are now handled by a separate organization devoting all its attention to the subject. Mac also did much to encourage the establishment of apprenticeship systems in mills to provide an opportunity for technical men to obtain experience.

In 1927, when Mac was finally tempted to relinquish the secretaryship, there was widespread regret amongst the members of TAPPI in this continent and in Europe. I happened to be in England and Scandinavia at the time, and it was really impressive to learn of the number of friends whom he had made in these countries and to hear of the expression of their regrets at his leaving TAPPI. We now know that the secretaryship fell into excellent hands, but it appeared most unreasonable of the News Print Service Bureau to take away a man who was doing such a fine job.

After a few years as engineer at the News Print Service Bureau, in 1929, Mac became a member of the manufacturing department of the International Paper Company in their New York office, where he remained till 1933. He left to go to Savannah, Georgia, to become assistant director of the pulp and paper laboratory. This laboratory was established by the late Dr. Charles H. Herty to further explore the utilization of southern pine for paper pulp, especially newsprint. With the help of Mac's practical knowledge of pulping and newsprint manufacture, the proposal to change southern pines into chemical pulp only by the acid or sulphite process was modified, and attention was turned to the well proved kraft, or alkaline, process for the purpose. This work not only ultimately resulted in the establishment of a large newsprint mill at Lufkin, Texas, but which perhaps was still more important, led to the rapid construction of the many large kraft pulp mills in the South, that later proved such an invaluable asset to this country and her allies during the war.

In 1936, after the completion of his work at Savannah, at the request of its secretary, Royall S. Kellogg, Mac returned as engineer to the News Print Service Bureau. Mac continues to serve the industry, not only by the work of the Bureau but also by a very keen interest in the affairs of TAPPI. He not only is General Chairman of the Engineering Division of the Association, but is also Chairman of the Textbook Revision Advisory Committee. This committee, under the Joint Executive Committee is presently engaged in a comprehensive revision of Volume V on Papermaking in which work Mac is taking a very active part. Incidentally, it was during Mac's secretaryship of TAPPI, that the association and the C.P.P.A. raised $44,246 to finance the first edition of these comprehensive textbooks under the editorship of J. N. Stephenson.

With this record of accomplishment and service, the announcement of the award of this year's TAPPI Medal by the TAPPI Executive Committee came as no surprise to Mac's many friends and acquaintances. These were gathered, not only as a result of his extensive travels in this continent and in Europe, but others from newcomers to the industry and visitors from abroad who sought his helpful and kindly assistance at his office in New York.

His two sons, Captain William G. McNaughton and 1st Lt. Peter L. McNaughton of the Army Transport Service—Peter already having had experience in pulp manufacture —will also share in our pleasure today.

Mr. McNaughton, I am most proud on behalf of the members of this association to present this medal members of this association to present this medal to you and, on behalf of your many friends all over the world, I wish you long continued happiness and success in all your endeavors.

TAPPI Notes

Forestier Walker, formerly of the Lake St. John Power & Paper Company, is now assistant director of research for Fraser Companies Ltd., Campbellton, N. B.

H. D. Martindale has succeeded H. L. Kutter, retired, as official representative of the Black-Clawson Company in the Technical Association.

Harold T. Fretz of Rayonier, Inc. has been transferred from Hoquiam, Wash., to Olympia, Wash.

Philip J. Hanan is now pulp mill superintendent for the Southern Advance Bag & Paper Company.

Wiley L. Jennings has been transferred from papermill superintendent at Covington, Va., to the sales department of the West Virginia Pulp & Paper Company, 230 Park Ave., New York, N. Y.

L. Morris Mitchell, formerly vice president of Merritt-Chapman & Scott Corp., is now president of L. Morris Mitchell, Inc., Construction and Engineering, 1 East 42nd Street, New York 17, N. Y.

Ingvar Jullander, recently professor of physical chemistry at Uppsala University in Sweden, has joined the Mo and Domsjo A/B at Ornskalvik, Sweden and has arrived in the United States for a one year visit for study purposes. He is at present located at Pagel Horton Company, 347 Madison Ave., New York 18, N. Y.

Reprints of the Index to the Technical Section of the PAPER TRADE JOURNAL, Vol. 121 (July to December 1945) may be obtained from the Technical Association of the Pulp and Paper Industry, 122 East 42nd Street, New York 17, N. Y.

Cover and Text Paper Group

At the annual meeting of the Cover and Text Paper Group of the Writing Paper Manufacturers Association held on Wednesday at the Waldorf-Astoria Hotel, R. H. Merrill, Chemical Paper Manufacturing Company, was elected chairman, succeeding Mr. W. W. Langtry, District of Columbia Paper Mills, Inc. In addition, the following were reelected as members of the Cover and Text Paper Committee to serve for the ensuing year; M. A. Park, Marvellum Company; Mr. G. H. Beckett, Beckett Paper Company; A. E. Frampton, Hammermill Paper Company; and J. H. Sweet, American Writing Paper Corporation.

The principal speaker at the meeting was Mr. Johannes Westergaard, vice president of Castle & Overton, Inc. Mr. Westergaard reviewed the conditions of pulp markets in Scandinavia citing his recent trip through that area and Northern Europe. Mr. Westergaard reviewed the reasons for difficulties in pulp production in Scandinavia, emphasizing that the shortage of coal was of primary importance.

Thin Paper Group

At the annual meeting of the Thin Paper Group of the Writing Paper Manufacturers Association held on Wednesday, at the Waldorf-Astoria Hotel, Bruce Crane, Crane & Company, Inc., was elected chairman of the group for the ensuing year, succeeding D. D. Coffin.

Lynn R. Edminister, Vice Chairman of the U. S. Tariff Commission and Chairman of the Committee on Reciprocity Information, was the principal speaker at the meeting. Mr. Edminister discussed the trade agreements program with particular reference to the function and procedure of this Committee. The Committee on Reciprocity Information is the government body which receives briefs and testimony of individuals and groups in connection with trade agreement regulations. Mr. Edminister expressed the desire that his discussion would prove helpful to any who may desire, at a later date, to present briefs and testimony before the Committee.

Col. W. P. Schweitzer, Peter J. Schweitzer, Inc., followed Mr. Edminister with a discussion of the situation in European paper mills.

Mill Supply Dealers Hold Banquet

The New York Association of Dealers in Paper Mills' Supplies, Inc. dinner was held February 26 in the Grand Ballroom of the Hotel Commodore. It was one of the largest dinners ever held and the attendance of over 750 enjoyed a wonderful dinner and a very fine program.

The officers for 1946 are: president, Gus R. Holm; 1st vice-president, Paul S. White; 2nd vice-president, Morris Kay, and secretary-treasurer, Alfred J. Moran.

Groundwood Paper Mfrs. Assn.

R. O. Warner, Minnesota & Ontario Paper Co., was elected president of the Groundwood Paper Mfrs. Assn., Inc., at its annual meeting yesterday in the Carpenter suite, Waldorf-Astoria Hotel. Other officers elected were: C. Francis Jenkins, Kimberly-Clark Corp., and James G. Conley, Fraser Paper, Ltd., both vice presidents.

The board of governors comprises the three officers and E. G. Murray, St. Regis Sales Corp., and Paul A. Mahoney, International Paper Co.

Assn. of Pulp Consumers

At the annual meeting of the Association of Pulp Consumers, Inc., held on Tuesday, at the Waldorf-Astoria, attended by 87 members, five new directors were elected to serve for three years.

Following the annual meeting the directors met and elected Maxwell D. Bardeen, Lee Paper Co., Vicksburg, Mich., president to succeed Walker Hamilton, and re-elected Arnold B. Huyssoon vice-president. C. V. Maudlin of Washington, D. C., was re-elected secretary-treasurer.

The new directors are: Hale Holden, Jr., Byron Weston Co., Dalton, Mass.; Joseph S. Miller, The New Haven Pulp & Board Co., New Haven, Conn.; A. K. Nicholson, Hollingsworth & Vose Co., East Walpole, Mass.; Harry C. Sackett, Alton Box Board Co., Alton, Ill.; N. H. Sandberg, Waldorf Paper Products Co., St. Paul, Minn.

Directors remaining from the previous year are: Maxwell D. Bardeen, Lee Paper Co., Vicksburg, Mich.; F. W. Brainard, Scott Paper Co., Chester, Pa.; George K. Ferguson, Watervliet Paper Co., Watervliet, Mich.; C. M. Forman, Ohio Boxboard Co., Rittman, O.; Walker Hamilton, Riegel Paper Corp., New York, N. Y.; Arnold B. Huyssoon, Continental Paper Co., Ridgefield Park, N. J.; E. R. Leonhard, Paterson Parchment Paper Co., Bristol, Pa.; Paul F. Moore, Westfield River Paper Co., Inc., Russell, Mass.; Robert B. Stevens, Stevens & Thompson Paper Co., Greenwich, N. Y.; W. B. Zimmerman, The Maxwell Paper Co., Franklin, O.

Retiring directors are: F. E. Brown, Manchester Board & Paper Co., Inc., Richmond, Va.; L. J. Long, The Crystal Tissue Co., Middletown, O.; George F. Moxley, West Jersey Paper Mfg. Co., Camden, N. J.; William M. E. Roberts, Fox River Paper Corp., Appleton, Wis.; Austin P. Story, The Chillicothe Paper Co., Chillicothe, O.

Taking cognizance of the continuing scarcity of wood pulp, the association passed a resolution to be submitted to the Civilian Production Administration asking that organization "to study the adequacy of the supply of wood pulp and certify the results to the OPA."

Kraft Paper Association

George Stuhr, Southern Kraft Division of International Paper Company, was elected president of the Kraft Paper Association, Inc. at that association's annual meeting held February 27 at the Waldorf-Astoria. He succeeds Willard J. Dixon of the St. Regis Paper Company who has headed the Association since June 1942. As a token of their esteem and appreciation for his services and leadership during the difficult war period, the members of the executive committee presented Mr. Dixon with an Old English solid silver tray.

Harold O. Nichols, Crown Zellerbach Corporation, was elected vice-president and the following also were named to the executive committee for 1946-1947: O. P. Carter, Gaylord Container Corp., H. S. Daniels, Union Bag & Paper Corp., J. R. Diggs, Mosinee Paper Mills Co., W. J. Dixon, St. Regis Paper Co., D. G. Driscoll, Sorg Paper Company, K. O. Elderkin, Crossett Paper Mills, R. L. Fitts, Southern Advance Bag & Paper Co., G. F. Henderson, Brown Company, J. L. Madden, Hollingsworth & Whitney Co. and S. M. Phelan, Jr., West Virginia Pulp & Paper Co.

U. S. Envelope Projects Three Plants

SPRINGFIELD, Mass., February 20, 1946—Three new factories are to be built immediately by the United States Envelope company to serve various sections of the country, it was announced here. One will be in San Francisco, another in Atlanta, Ga., and the site of the third will be in the Southwest. During the last year the company also completed an addition to its Los Angeles division, which more than doubles the facilities of that plant. The expansion program of the company is to round out its production facilities in all parts of the country so that it may provide more efficient service to its customers.

The income account for the year ending Dec. 31, 1945, also released here, showed net profit of $819,193, subject to adjustments to reflect renegotiation of price on war contracts completed in 1945. This compared with the net of $791,230 in the previous year. Sales for 1945 were 6.5 per cent less than in 1944.

Regarding the company's expansion program, the executive committee of the board of directors said in its report to stockholders:

"In November, the land and building occupied by the San Francisco division were sold, and a tract of land purchased in Emeryville, across the bay from San Francisco. On this site there will be constructed in 1946 a new one-story modern design plant to which the San Francisco division will be moved.

"The company has for some time been aware of the need for increased facilities strategically located to better serve the rapidly growing southeastern and southwestern sections of the country

"Land has been purchased in Atlanta, Ga., where we will immediately start construction of a modern plant to serve the southeast.

"The company purchased last month the envelope plant formerly operated by the E. C. Palmer Company in New Orleans. Some of this equipment will be incorporated in a new plant to be located in the Southwest which we plan to have completed and in operation as early as possible in 1947.

"The machine shops of the company are now engaged in the development of a number of projects contemplated but impossible to complete during the war period. A considerable amount of improved machinery is under construction and on order.

"This program of new plant construction and equipment building will call for the expenditure of considerable funds during the next two years. When these projects are completed our manufacturing facilities will be materially strengthened and our ability to give efficient service to customers in all parts of the country substantially improved."

Net current assets of the U. S. Envelope on Dec. 31, 1945, amounted to $6,155,263 against current liabilities of $1,354,044 or a ratio of 7.9 to 1.

The company's total assets were listed at $11,415,401, and its total capital and surplus at $9,518,410.

Erving Staff to Vote

ERVING, Mass., February 16—The National Labor Relations Board announced that an election will be held among the 175 production and maintenance employes of Erving Paper Mills of Erving to determine whether they desire to be represented for collective bargaining purposes by the International Brotherhood of Paper Makers (AFL).

Morris Housen of Holyoke is head of the Erving Mills and his brother David is also an official of the company.

Sutherland Expansion Progresses

KALAMAZOO, Mich., February 19, 1946—Financial reports indicating a profit for the past year of $609,000 were presented at the annual meeting of the stockholders of the Sutherland Paper Company. Net sales for the year were approximately $15,000,000. Plans for future expansion, estimated at $2,000,000, were discussed.

These include a building containing 127,952 square feet of floor space being erected directly north of the present office building on North Pitcher street. This will house cup machinery with a capacity of approximately one million handle cups per day. The building will also contain three large laminating units, two of which will be new, a number of new 2-, 3-, 4- and 5-color rotary printing presses, new gluing machines, cutting presses, and smaller equipment. The other building under construction is located on U.S. 12A–Lincoln Avenue adjoining the present board mill. This will contain 95,900 square feet of floor space and will house 1-, 2-, 3- and 4-color printing presses, cutting machinery, ink processing room, and superintendent's office.

Both buildings are of concrete, brick and glass construction, entirely fireproof with heavy reinforced concrete floors, and will be entirely closed at all times, the air being changed by special Clarage fans and filter equipment. Tile lined and floored rest rooms will be provided in both buildings.

Included in the future plans is the complete rebuilding of the No. 1 and 2 paper machines in the North Pitcher Street plant, which will increase the capacity of that mill by approximately sixty tons per day. It was brought out in the meeting that the new wet end is now installed on the board machine in the No. 1 plant on U.S. 12A–Lincoln Avenue, the No. 3 machine having been overhauled in 1941. When all board mill improvements are completed the estimated 24 hour tonnage should approximate 450 tons.

The following were elected officers: Chairman of the Board and President, L. W. Sutherland; Vice President in Charge of Production, Glen E. Graham; Vice President, Arthur J. Young; Secretary and Treasurer, William Race. The directors elected included the above officers and: E. W. Chase, L. M. Crockett, Dr. L. H. S. DeWitt, F. B. Eilers, C. H. Farrell, R. A. Hayward, S Rudolph Light and W L. Otis. New directors are R. A. Hayward and S. Rudolph Light.

Brown Starts New 200-Ton Mill

BERLIN, N. H., February 23, 1946 — The Rust Engineering Co., of Pittsburgh, Pa., will design and construct a sulphate pulp plant with an initial capacity of 200 tons per day for The Brown Company. The plans include provision for future expansion. The new pulp plant will be constructed adjacent to the Burgess, N. H., mill of the Brown Company, and will be complemented by the installation of a new paper machine and stock preparation equipment for the company's Cascade plant.

The work is part of a modernization and expansion program being undertaken by the company. Contracts for the operating equipment have been placed; and construction work, consisting in general of steel frame and brick walls, will start in the spring. As a part of this program, Rust designed and constructed a dam in the Androscoggin River, which was put in service in the late fall.

Wisconsin Attacks Stream Pollution

Paper Mills Find Demand For Skilled Help Running Far Ahead of the Available Supply—Ashland Mill Celebrates Safety Record — Kimberly-Clark Expansion Holds Promise of Broad Benefits.

APPLETON, Wis., February 25, 1946—Wisconsin paper industry is solving the problem of stream pollution, it was indicated at a meeting of the Advisory Committee on Waste Disposal for the industry Monday afternoon, February 18, at the City Hall in Milwaukee, Wis.

After hearing reports of committee members, all of them technical men, on last year's progress, L. F. Warrick, state sanitary engineer and secretary of the state committee on water pollution, hailed the progress made in the state, after many years of preliminary work.

H. A. Rothschild, technical director of Kimberly-Clark Corporation and chairman of the Advisory committee, presided at the meeting.

Marathon Celebrates a Record

The Ashland division of Marathon Corporation has been without a lost-time accident since October, 1940. More than three hundred officials and employes of the division and representatives of the company at its other branches attended a recent banquet at Ashland in observance of the record.

Demand High for Skilled Help

Demand for skilled workers in the Appleton-Neenah-Menasha area exceeds the supply, while the supply of unskilled workers exceeds the demand, according to the monthly report of the district United States Employment Service.

The report explained that many employers are continuing reluctant to draw upon the available supply of inexperienced workers because they anticipate the return of former employes who still are in the service and who have reemployment rights.

Although paper manufacturing is the predominant industry in the area, paper manufacturers indicated they will demand only about 140 workers in the next two months, while other establishments show a combined demand of 256 workers and the non-manufacturing employers anticipate a demand of 55. The paper industry expects to fill most of its demand with male workers, since their two-month forecast on women is 80 lower than the current employment figure.

The Neenah-Menasha area has more than 7,000 industrial employes, according to a report by the Wisconsin Industrial Commission. Twenty plants in the two cities reported 7,161 of which 5,317 are hourly paid and 1,844 are salaried, including factory supervision, engineering and technical employes.

Kimberly-Clark Corporation, with four mills, is the largest industrial employer and has the largest number of employes in one mill in the area. It lists 3,071 employes of whom 1,548 are at Lakeview, 775 at the main office, 528 at Badger-Globe and 219 at Kimlark Engineering.

Marathon Corporation heads the list of Menasha firms with 1,524 employes of whom 1,150 are men and 374 are women. The George Banta Publishing Company ranks third with 486 workers while Gilbert Paper Company has 364.

Other figures: Neenah Paper Company 335, Bergstrom Paper Company 218, Menasha Woodenward Company 200, Neenah Foundry Company 177, John Strange Paper Company 82, Whiting Paper Company 74, Central Paper Company 64, Edgewater Paper Company 29.

Kimberly Club Names Delegates

Members of the Kimberly mill Foremen's Club voted Monday evening, February 18, at the Kimberly clubhouse to send A. G. Briggs and C. F. Bouressa to the Foreman's Training Conference in Pittsburgh, Pa., March 14 and 15. The meeting is being sponsored by the National Association of Foremen.

Three members of the Neenah staff, A. D. Wilkinson, William Chopin and Andrew Sharpe, spoke after the business meeting. Mr. Wilkinson traced the history of Kimberly-Clark, listing major changes in the company; Mr. Chopin, in the paper customer acceptance laboratory, discussed tests made of papers and how Kimberly-Clark papers rank with those of competitors; and Mr. Sharpe, a member of the sales department, used charts in his discussion of sales trends, customer requirements, potential customers and territories.

K-C Expansion To Benefit Three Cities

Kimberly-Clark Corporation's expansion program is designed to perpetuate its operations in the Fox River Valley and to promote the economic stability of Appleton, Neenah and Menasha, Wis., 130 businessmen guests were assured Tuesday evening, February 5, at North Shore Country Club. The guests were members of the Neenah-Menasha Chamber of Commerce, officers and directors of the Appleton Chamber and members of the Kimberly-Clark family.

Cola Parker, president, and Ernst Mahler, executive vice president, explained the corporation's aims in its expansion program. Mr. Parker said that in planning its activities the company always has in mind the perpetuation of its Fox River Valley operations. He explained that his guests were invited to the dinner because he felt that businessmen of the three communities were vitally interested in what Kimberly-Clark was doing and thinking.

He said that the new pulp mill on the north shore of Lake Superior will be ready for operation in a couple of years and will provide an unfailing source of raw materials to keep the corporation's valley mills in continuous operation. He also outlined the rebuilding and expansion program at Niagara, Wis., remarking that this mill will be able to compete profitably in a world market.

Mr. Mahler said that Kimberly-Clark's payroll in the Fox River Valley last year aggregated $9,600,000 He pointed out that its four mill restaurants sold 368,000 quarts of milk last year, and he suggested that the farmers in this rich dairy region also have a vital stake in the company's operations.

FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week Ending February 22, 1946

STOCKS

	High	Low	Last
A. P. W.	9⅜	9	9
Armstrong Cork Co.	57	53½	53½
Celotex Corp.	29	25	25
Celotex Corp., pf.	21¾	21⅛	21⅛
Certain-Teed Products Corp.	20	18	18⅜
Certain-Teed Products Corp., pf.	109¼	109¼	109¼
Champion Paper & Fibre Co.	49¼	47¼	47¾
Champion Paper & Fibre Co., pf.	113	110½	110½
Congoleum Nairn Co.	36	33¾	34½
Container Corp. of America	44¼	42½	42½
Continental-Diamond Fibre Co.	17¼	16⅛	16⅛
Crown-Zellerbach Co.	34¾	31¾	32
Crown-Zellerbach Co., pf.	109	109	109
Dixie Cup Co.	45	45	45
Dixie Cup Co.—A	54¾	53½	54¼
Flintkote Co.	41⅜	37½	38¼
Flintkote Co., pf.	114	114	114
Robert Gair	10¾	9½	9⅝
Robert Gair, pf.	20¼	20	20
International Paper Co.	45¼	43⅛	43½
International Paper Co., pf.	115	113⅜	113⅜
Johns-Manville Corp.	153	143½	144
Johns-Manville Corp., pf.	136	135	135
Kimberly-Clark Corp.	64	62¾	62¾
Mac Andrews & Forbes	38½	38½	38½
Mac Andrews & Forbes, pf.	...	...	...
Masonite Corp.	61½	57½	57½
Mead Corp.	23¾	21	21
Mead Corp., pf. A—6%	...	...	...
Mead Corp., pf. B—5½%	105	105	105
National Container Corp.	28¼	26	26¼
Paraffine Companies, Inc.	81	78	79
Paraffine Companies, Inc., pf.	...	...	...
Rayonier, Inc.	27¼	23½	24
Rayonier, Inc., pf.	38	37½	37½
Ruberoid Co.	48	47	47
Scott Paper Co.	57⅞	55	55
Scott Paper Co., pf.	109	108	108
Sutherland Paper Co.	41½	40½	40½
Union Bag & Paper Corp.	26¾	24	24
United Paperboard Co.	12½	11	11
U. S. Gypsum Co.	120½	112	112
U. S. Gypsum Co., pf.	...	...	...
West Virginia Pulp & Paper Co.	42½	39⅞	40½
West Virginia Pulp & Paper Co., pf.	...	...	...

BONDS

Abitibi Pulp & Paper Co. 5s '53	108⅛	106½	106½
Celotex Corp. 3¾s '55	...	...	...
Certain-Teed Products Corp. 5½s '53	...	...	...
Champion Paper & Fibre Co. 3s '65	...	...	...
International Paper Co. 5s '47	103$\frac{8}{32}$	103$\frac{8}{32}$	103$\frac{8}{32}$
Mead Corp. 3½s '53	...	...	...

New York Curb Exchange

High, Low and Last for Week Ending February 22, 1946

STOCKS

	High	Low	Last
Great Northern Paper Co.	42¾	40¼	40¼
Hummel-Ross Fibre Corp.	13¼	12	12
St. Regis Paper Co.	11⅝	10⅛	10¼
St. Regis Paper Co., pf.	...	...	...
Taggart Corp.	10¼	9¾	9¾

BONDS

American Writing Paper Co. 6s '61	102½	102	102

Discuss Great Lakes Changes

TORONTO, Ont., February 23, 1945—Financial circles are still speculating widely on the nature of the possible changes in capital structure of Great Lakes Paper Co. in spite of the published reports that the whole question was in a very nebulous state and that no immediate change was anticipated.

Most recent unofficial report suggests one new $2.50 preferred share and one-third of a common share for each old $2.00 class "A" preferred share, with the class "B" preferred, now held by the trustees for the newspaper publishers, to be eliminated in return for long-term contracts. For such a plan to be possible the authorized common stock would likely have to be increased as the presently authorized 100,000 common shares are now all issued.

As reported last week by Hon. W. Earl Rowe, the president, capacity operation for the company's newsprint mill has been assured for 1946 and the cut of pulpwood this winter is at a record high; hauling conditions in the bush are excellent and will greatly facilitate movement of the wood cut to the mill.

Calder Expects Steady Demand

SAVANNAH, Ga., February 23, 1946—In reporting net sales of Union Bag & Paper Corporation in 1945 advanced to $41,391,116, a record high, President Alexander Calder pointed out that this was an increase of six per cent over 1944 figures and 3½ times the company's net sales in 1936, the year in which the Savannah plant began operations. Total tonnage of all products sold in 1945 was 321,090 tons compared with 304,996 tons the previous year.

The report, subject to audit, shows that net income for the year ended December 31, 1945, after all charges, totaled $1,646,467 after providing for nearly $2,000,000 more of special amortization than was charged in the previous year. This is equivalent to $1.30 a share on the capital stock outstanding. It compared with $1,584,013, equivalent to $1.25 a share in 1944.

Foreseeing heavy consumer sales for the next three or four years, President Calder, in the preliminary report, states that "because of the backlog of demand for paper goods considered 'non-essential' during the war, we look for good demand in the paper industry during this period." He points out that "there is still a limited supply of consumer goods due to strikes and shortages of certain raw materials. Increased sales of consumer items made possible through increased production in 1946, naturally means a greater demand for wrapping paper, bags, boxes and almost every other paper product.

"Barring strikes and raw material shortages, overall production of the entire industry in 1946 probably will reach about 18,300,000 tons or a million tons more than last year," Mr. Calder stated.

"OPA ceilings, still in effect in the paper industry, have seriously affected the production of various grades of paper as compared with others," Mr. Calder states. "Newsprint production, for example, due to the scant profit under OPA ceilings, has been radically decreased. The same is true of wrapping paper and grocer bags. In view of the shortage of pulp and paper which seems likely for several years to come, there is strong likelihood that if OPA continues beyond June, higher prices will be requested on many paper products."

Engineering work has been started for the installation of a fifth paper machine and for the expansion of the bag facilities at Savannah. Mr. Calder's report discloses that by the end of last year the company had drawn $2,800,000 against a ten-year 2¼ per cent bank loan arranged last September with J. P. Morgan & Company and a group of banks.

Marathon to Split Stock

APPLETON, Wis., February 25, 1946—Directors of Marathon Corporation on Thursday, February 21, declared a 10 per cent dividend payable in common stock of the corporation on March 4 to stockholders of record on that date. This action was taken after common stockholders, in a special meeting earlier during the day at the company's office at Rothschild, approved a two-for-one split in the common stock. The stockholders also voted an increase in the number of shares from 400,000 to 1,300,000.

Holders of the present common stock of $12.50 par value will be entitled to exchange their stock for two shares of stock with par value of $6.25.

After payment of the stock dividend and the two-for-one split, there will be outstanding 880,000 shares.

Midwest Weighs Benefits of OPA Rule

Chicago Trade Discovers Some Advantage In Writing Paper Easement — City Fathers Consider Wall Board Specifications In Building Emergency — Waste Paper Men Seek Clearer Definitions.

CHICAGO, Ill., February 25, 1946—Another amendment to the price regulations involving the writing paper trade has been the subject of discussion in Chicago during the past week. Permitting increases in sheeting differentials in writing papers, the ruling is considered as not helpful in stimulating production and certainly not sufficient to have any startling effect on anybody's profit and loss statement. It is however, considered to be a distinct help in covering at least a part of the increases in production costs which are now worrying the trade.

Otherwise, the industry in this area evidenced no marked changes. Demand was exceedingly strong and supplies still in the "short" classification. There were evidences of pronounced worry over the waste paper collections in the district where, despite not too unfavorable winter weather, collections were not holding up—particularly in old newspapers. The lack of interest in the salvaging of newspapers has caused a renewal of consideration for more "drives" in which the average citizen can cooperate as during the War days. The lack of patriotic stimulus could be overcome, it is felt in some quarters, by an appeal to the mercenary side of agencies which formerly went in for voluntary collection in a big way.

Speaker Discusses Carton Problems

Roger R. Wilterding, art director of the Ace Carton Corporation, did a splendid job of explaining the problems of the carton manufacturer on February 18 before 130 members and guests of the Chicago Professional Paper Group. Mr. Wilterding spoke in non-technical, easy-to-understand language which permitted his entire audience to follow closely the relationship between the paper mill, package designer, artist, printer and the creators of the ingenious machines which cut, glue and fold the cartons at amazing speed. The Ace Carton executive stressed perhaps most of all, the appearance of the finished product and emphasized again and again the importance of public acceptance. He indicated that if a box is well designed and has excellent acceptance from the public it should not be re-designed unless there were very, very important reasons for so doing. He then gave some examples of where firms had found it necessary to change design and appearance to permit full utilization of new products or altered products and pointed out how these changes were made gradually and over a long period of time in order that public acceptance might be disturbed as little as possible. It was perhaps one of the most interesting of the long series of excellent programs arranged by the Group and a major point of excellence, according to reports, was the non-technical approach to the problem.

Mr. Wilterding was introduced by Joe Kubicka, Container Corporation of America, program chairman for the Chicago Professional Paper Group.

F. T. C. Drops Complaints

The Federal Trade Commission announced this week that it had dismissed without prejudice complaints against two associations identified with the paper trade. The first involved action against the National Paperboard Association of Chicago, wherein the association was charged with a combination to eliminate price competition, restrict production and monopolize the making and sale of paperboard and paperboard products. The Commission also dismissed, without prejudice, a complaint against the American Waxed Paper Association in an almost identical charge revolving around alleged combinations to restrain trade and fix prices in the sale of waxed paper products.

Study Wall Board Usage

Chicago's aldermen, seeking means of encouraging low cost home building, this week asked the board of standards and tests for opinions on the merits of wallboard. The board in the past is reported as not too enthusiastic about wallboard but the need for lower cost housing is resulting in a re-appraisal of the product. Consideration of wallboard appeared to center on its fire resistive value. The code here requires that wall materials, without specifying either type, will withstand fire for half an hour. Wallboard makers say these products meet the standard. The code, however, requires in addition that the wall finish he half an inch thick and seamless, which means that only plaster can qualify. Certain builders have stated that wallboard saves in cost and several days of building time, arguing that, with wallboard, the problem of having the heating system in operation is nullified.

Waste Paper Institute Studies Problems

Members of the Waste Paper Institute, meeting in Chicago this week, were told that a strong demand probably would continue for waste paper the balance of 1946, although it was indicated that continuance of nationwide strikes would have a definite effect on operations of mills. However, if their operations are not curtailed, it was pointed out that there will be a real need for all paper coming on the market. The Sherman Hotel sessions also brought up other major problems and a discussion of the future program of the Institute. Members voted to continue the operations of the waste paper industry committee and requested that it study issues affecting the trade. It was proposed that government bids on waste paper be broken down into two proposals, one for items on which ceiling prices prevail and the other on grades not under any price schedule. The Institute, it is reported, also recommended that the committee, which has been of great use to the trade, again ask the Office of Price Administration to take some action on the set of definitions on grades sent to the agency but never issued. It was indicated that the OPA in the near future will issue an amendment which will increase the hauling charge on waste paper. Those present were told that a protest has been sent to the Interstate Commerce Commission on the new ruling on car loadings which goes into effect March 1. Under this order, shippers would have to load cars made available by the railroads and load them to capacity even though a smaller car was requested.

We Keep Digging . . .
but It Keeps Snowing!

When it began to snow orders on SOLVAY, we began to step up our production to keep apace. But no matter how hard we work, the snow of orders keeps getting heavier. We are honestly doing our best to deliver what you want, all you want, when you want it. We appreciate your co-operation, and we thank you for your understanding. As the Chinese proverb says . . . the picture tells our story. There is one thing you can be sure of . . . no matter how great the demand, the quality of SOLVAY Alkalies will always be the finest.

SOLVAY SALES CORPORATION
Alkalies and Chemical Products Manufactured by The Solvay Process Company
40 Rector Street New York 6, N. Y.

SOLVAY

Soda Ash • Caustic Soda • Ammonium & Potassium Products
Specialty Cleansers • Chlorine Products • Calcium Chloride

Obituary

Mark F. Purcell

Mark F. Purcell, for the past twelve years connected with the Whiting-Patterson Company, died February 9th at his home, 2022 Upland Way, Overbrook, a few days after reaching his eightieth birthday.

Born in Philadelphia, January 25, 1866, Mr. Purcell attended the Roth's Academy, on South Broad Street, and Villanova College, and lived in this city all his life.

His business career embraced a few years as a young man in the real estate business of his father, and the Commercial and National and Fourth Street Banks, and forty-seven years in the paper trade, which he entered in 1899, when he became associated with Irwin N. Megargee and Company. Mr. Purcell was respected and admired by all those with whom he came in contact for his integrity, attention to details and knowledge of the paper business.

He was a mine of information and anecdotes regarding the City of Philadelphia and events of the past which threw light on the present, but while interested in Philadelphia of bygone days, Mr. Purcell delighted in progress, endorsed all proposed improvements and took a keen interest in plans for the growth, expansion and development of the city which he loved and honored.

He is survived by his wife, Mabelle M. Purcell, and two children.

Charles S. Bryant

ASHEVILLE, N. C., February 21, 1946—Charles S. Bryant, assistant treasurer of the Champion Paper & Fiber Company, died at his home in Biltmore Forest yesterday, following a heart attack. He wes 77 years old. Mr. Bryant had resided in Asheville and Biltmore Forest for the past 41 years, coming here from Cincinnati, in 1905. Long active in civic and business affairs, Mr. Bryant had been mayor of Biltmore Forest for a number of years. He also was chairman of the board of the First National Bank in Asheville. The deceased is survived by two sisters, Mrs. Sadie Ruffin and Miss Mary Bryant, both of Cincinnati, and a daughter, Mrs. James A. Rickert, of Asheville.

Frederick J. Campbell

MONTREAL, Que., February 25, 1946—Frederick Joseph Campbell, well known in the paper industry here for half a century, died at his home in Westmount. He was a director of the Bathurst Power and Paper Company and the Canada Paper Company. He began his career with the latter company in 1881, and ten years later became its manager. He was vice-president and managing director of that company's Montreal and Windsor mills from 1902 until 1929, when he retired. He was one of the founders of the Canadian Pulp and Paper Association, and in 1919 was its president. In his early days he was a championship athlete, and was long prominent in golfing, fishing, shooting and yachting circles. For many years past he had taken a leading part in community organizations in Montreal.

Charles Frank

Charles Frank, 63, a former resident of Springfield, Mass., and a founder of the Frank Bros. Paper Co. there, died at New York City Thursday night following a heart attack.

St. Regis to Build New Bag Plant

VANCOUVER, B. C., February 22, 1946—Work will be commenced during March on the erection of a new paper bag plant at Arbutus and Eleventh Avenue, Vancouver, B. C. E. P. Engness of the St. Regis Paper Company of Canada states that the new plant will cost approximately $320,000. The St. Regis Paper Company purchased the business of the Vancouver branch of the Bates Valve Bag Company in 1929 and has continued to operate the plant since that time. The company has been planning the erection of a new plant for some considerable time.

National Blank Book Stages Convention

HOLYOKE, Mass., February 16—Dr. John Calhoun Baker, president of Ohio University and a director of the National Blank Book company of this city spoke at a joint meeting of foremen and salesmen of the National at Wiggins Tavern, Northampton. The session was in connection with the local firm's sales conference of eastern representatives.

Eastern salesmen attending were Paul Buckwalter, Robert Wall, George Nicklaus, Alfred Quinn, Lester Weber, Jack Staubach, W. E. Williams, Frank Horner, William Lindenberger, New York City; J. S. Croke, New York state; George E. Harscheid, Philadelphia; Sam J. Orr, Atlanta; Ray Fletcher, Boston; Harry J. Ferry, New England.

The speakers and their subjects at the two-day conference were: Treasurer Richard P. Towne, welcome; Vice-President Joseph M. Towne, production report; Albert E. Farr, materials, stock merchandise; H. Burton, social lines; H. Hanson, specials and catalog covers; R. Kirchner, equipment lines; D. C. Hegarty, advertising; H. M. Tanner, markets; Paul B. Buckwalter, 1946. After the conference the factory visit was conducted by Superintendent Richard M. Weiser.

FIBROUS WASTE DEMAND HEAVY

(Continued from page 88)

unbleached muslin grades were relatively short. This was attributed to the lack of supply by the cutting up trades, and in turn, smaller quantities of old cotton rags were returned to the markets. Paper and fiber mills were often unable to purchase all the new cotton cuttings required. The heavy government and consumer demand for the products of roofing felt manufacturers also maintained an active market for old rags.

The relative tight market supply situation in rags continued throughout the year. After cutbacks in other lines after VJ-Day, demand increased under the strong pressure for roofing products, and the rag markets were even stronger in tone at the end of the year than at the beginning of 1945. The relatively scarce supply of rags is attributed to the decline in the production of new clothing for civilians and to the large shipments of used clothing for the relief of the destitute in Europe. This situation is likely to continue throughout 1946.

New and old cotton rag prices were firmly maintained throughout the year. OPA maximum prices to mills on major grades were unchanged as follows: No. 1 whites, 3.80; satinet garments, 1.55; and thirds and blues, 2.20.

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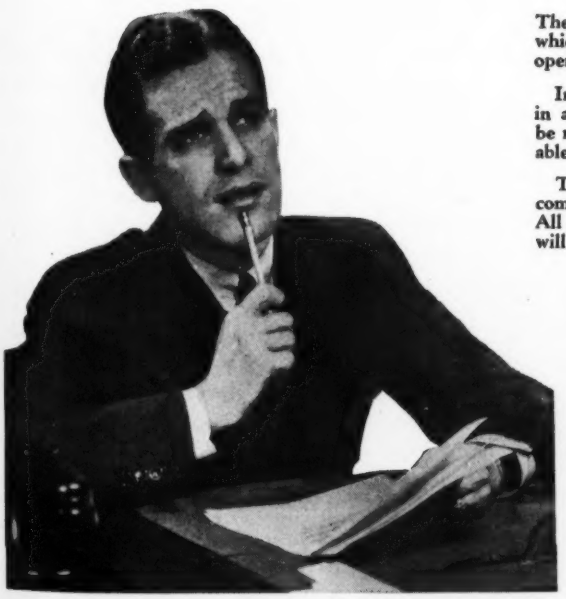

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THE YEAR IN PAPER

Paper production in 1945 aggregated 17,374,200 tons against a capacity of 19,360,000 tons, and the industry operated at an average capacity of 90%. This compares with 17,182,804 tons against a capacity of 19,260,000 tons and a ratio of 89% in 1944; with 17,035,688 tons, against a capacity of 18,830,000 tons and a ratio of 90% in 1943, and with an output of 17,762,365 tons, against a capacity of 18,522,000 tons and a ratio of 96% in 1941.

Newsprint production in North America in 1945 totaled 4,316,000 tons, an increase of 332,000 tons or 8% above 1944. United States production was 3,259,000 tons, and Newfoundland produced 333,000 tons. Canadian production was 267 more tons, an increase of 9%, but was 167,000 tons or 5% below 1941, and 389,000 tons or 11% below 1937. United States production was 4,000 more tons or not quite 1% more than in 1944. Newfoundland output showed an increase of 60,000 tons or 22% more than in 1944, but was 18,000 tons or 5% below its record production in 1940. Canadian exports aggregated 3,059,000 tons in 1945, an increase of 259,000 tons over 1944. Of this total 2,534,000 tons or 83% went to the United States, and 525,000 tons or 17% was shipped overseas. Exports to the United States were 5% more than in 1944, but were 229,000 tons or 8% below 1941. Total imports of newsprint into the United States were 2,666,000 tons or 175,000 tons larger than in 1944. Stocks held by publishers totaled 266,000 tons at the end of 1945, and were 76,000 tons below 1944. Apparent consumption was 7% more in 1945, being estimated at 3,480,000 tons, compared with 3,250,000 tons in 1944.

Kraft paper production in 1945 was 50,000 tons higher than in 1944, and the industry operated at 78% of capacity, compared with 74% in 1944. The importation of 243,000 tons of sulphate wood pulp from overseas was largely responsible for the 6% increase in kraft paper production in the last half of 1945. Demand for kraft paper was high and from 250,000 to 500,000 tons above output. With adequate supplies of pulpwood and a realistic approach by OPA to the industry's problems, it is estimated that 1,600,000 tons of unbleached kraft paper could be produced in 1946.

Book paper production as preliminarily estimated for 1945 totaled 1,500,000 tons, against a capacity of 1,800,000 tons and the industry operated at 83% of capacity. This compares with an output of 1,443,140 tons, against a capacity of 1,800,000 tons in 1944, and 80% of capacity; in 1943, output was 1,602,878 tons, against a capacity of 1,850,000 tons, and 87% of capacity; in 1941, the record year, production was 2,025,891 tons, against a capacity of 2,045,000 tons, and 99% of capacity. Demand for book paper at the close of the year and in the first month of the postwar period sharply increased by about 24%. Since the end of limitations in the use of book paper, magazines have added more pages and about 18% more advertising space and are increasing the weights of paper. Reconversion needs will increase the strong demand for white paper. Sales literature for the distribution of old and many new products will be planned on a large scale. Little of this has been started, as the lack of materials for products and price determinations are yet unsettled.

Writing paper production in 1945, estimated at 816,000 tons, against a capacity of 860,000 tons, was 95% of capacity. This compares with actual production in 1944 of 790,790 tons, against a capacity of 860,000 tons, and 92% of capacity. In 1943, production was 830,046 tons, against a capacity of 860,000 tons, and 97% of capacity, and in 1941, output was 738,434 tons, against a capacity of 750,000 tons and 98% of capacity.

Other fine paper production totaled an estimated 188,500 tons, against a capacity of 200,000 tons and 94% of capacity. In 1944 output was 176,227 tons, against a capacity of 200,000 tons and 88% of capacity; in 1943, output was 180,555 tons, against a capacity of 200,000 and 90% of capacity, and in 1942, output was 211,580 tons, against a capacity of 224,800 tons and 94% of capacity.

Paperboard production in 1945 aggregated 8,905,628 tons, compared with 8,962,568 tons in 1944, and with 8,620,434 tons in 1943. Containerboard was the leading product at 4,130,424 tons; folding boxboard, 2,266,860 tons, and building board, 1,121,824 tons. In 1945, paperboard mills completed five years of record production of over 7,700,000 tons, compared to an average 5,600,000 tons in the prior five year period. Much of this increase was due to heavy war needs which brought wide expansion to paperboard manufacturers. The cumulative activity for 1945 was 93% of capacity, the same as 1944. The unfilled bank of orders on hand on January 1, 1945 was 471,300 tons, or equal to 17.6 days of running time. It rose to 606,000 tons or 22.6 days on May 1, and then gradually declined, closing the year at 462,500 tons or 17.3 days of running time.

Wood pulp production in the United States totaled 10,165,000 tons in 1945, compared with 10,108,000 tons in 1944. This small increase was the remainder of a considerably larger increase achieved in the first half of the year. Production in that period was 228,000 tons more than in 1944. In the second half of 1945, production declined 171,000 tons from 1944. Wood pulp supplies were inadequate in the first nine months of 1945, but through WPB allocation and limitation of use regulations, it was possible for mills to operate reasonably well.

Finch Pruyn Readies Groundwood Mill

GLENS FALLS, N. Y., February 25, 1946—The manufacture of newsprint is reported to have been discontinued by Finch, Pruyn & Company but it is continuing to supply a large number of newspaper publications under contract by purchasing the tonnage from a Canadian mill. The change in policy became effective January 1 and it is understood that the firm plans to continue the groundwood specialty grades that it has been manufacturing for some time and add new grades of higher quality as soon as possible.

In order to accomplish this, the pulp and paper mills are now being modernized to manufacture the highest quality, high content groundwood paper available for magazines, school and office supplies, books and other periodicals. Very few changes will be made in the grinder room, this having been rebuilt in 1934 when ten grinders were installed. Later, however, a groundwood bleaching plant will be added.

The screen room is to be entirely rebuilt by the installation of screens of the most modern kind while existing deckers are also to be modernized. The old beater room is now being dismantled and the use of beaters will be discontinued. Later, a storehouse will be built for housing reserve supplies of pulps and chemicals as well as a modern plant for the storage and preparation of clay. Two of the three paper machines are being partially rebuilt by the installation of new head boxes, slices and fourdriniers.

This work is being done by the Sandy Hill Iron & Brass Works. A new hood and ventilating system for each of the machines will be erected. In the finishing and converting departments a new rotary cutter and layboy will be installed while new electric trucks for handling and loading paper are being purchased. It is also planned to increase to capacity the present paper storage building which will be provided with the most modern methods of paper handling. Extensive changes are also being made in the electrical system of the mill and later the electrical generating plant will be enlarged and modernized.

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1946		Corresponding Weeks—1945	
Jan. 12	95.3	Jan. 13	88.7
Jan. 19	94.4	Jan. 20	89.0
Jan. 26	94.5	Jan. 27	88.4
Feb. 2	101.5	Feb. 3	88.8
Feb. 9	99.7	Feb. 10	90.1
Feb. 16	*95.0*	Feb. 17	91.0

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	86.7	89.4	90.2	88.1	89.8	91.2	80.8	88.6	90.2	95.9	95.5	91.0	89.7
1946	*94.7*												

COMPARATIVE YEARLY SUMMARIES

	1939	1940	1941	1942	1943	1944	1945	1946
Year to Date	77.9	88.2	87.0	104.1	87.6	88.7	86.8	*95.2*
Year Average	83.4	85.6	97.4	90.4	87.8	88.1	89.7	

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS †

Current Weeks—1946		Corresponding Weeks—1945	
Jan. 12	94	Jan. 13	95
Jan. 19	93	Jan. 20	94
Jan. 26	94	Jan. 27	95
Feb. 2	95	Feb. 3	92
Feb. 9	97	Feb. 10	93
Feb. 16	*94*	Feb. 17	93

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	91	95	97	97	96	96	86	90	91	97	95	85	93
1946	*90*												

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Assn.

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W & W To Retire Preferred

HOLYOKE, Mass., February 24, 1946—A major stock reorganization was proposed to its stockholders by the White and Wyckoff Manufacturing company last week as a means of fulfilling the request of Mrs. J. Lewis Wyckoff to dispose of her 9450 shares in the company.

Rejecting offers to sell to outside interests, the directors have decided to buy in Mrs. Wyckoff's shares, which are in common stock and to retire the entire preferred stock issue. This plan will be presented to the stockholders at the annual meeting here.

Mrs. Wyckoff will be paid $25 a share, and will thus receive $236,250 for her holdings. Her stock, left to her by her husband, who was president of the company for 40 years until his death in 1931, will be held in the treasury. It represents a sizable block of the 32,728 shares of common stock.

The preferred stock will be bought in for $77.50 a share. The par value is $75. There are 5644 shares of this issue outstanding.

White & Wyckoff directors have three courses they could follow. They could liquidate at a price that would bring $30 to $35 a share for the common stock and $75 a share for the preferred. On liquidation the preferred would bring in its par value but on a recall brings a premium of $2.50 a share. This the directors turned down in the earliest stages of discussion.

An offer was received from outside banking interests. The directors, opposed to absentee ownership of this Holyoke firm, turned this down.

The third alternative was to buy Mrs. Wyckoff's interests and to retire the preferred stock. This is the course proposed to the stockholders. The book value of the common stock is $30.58 a share. This move will not require outside financing, Harry C. Dutton, president of White and Wyckoff, said.

Glanz Joins Trimz

CHICAGO, Ill., February 25, 1946—Norman A. Glantz has been appointed merchandise manager for Trimz Company, Inc., a division of United Wallpaper, Inc.

Mr. Glantz will take charge of the Trimz company's "Major Store Promotion" program, and will also head up the company's entire field service organization.

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Retains Pejepscot Staff

BRUNSWICK, Me., February 21, 1946—In line with a policy of retaining the present staff at the Pejepscot Paper Company, recently purchased by Hearst Enterprises, Inc., president R. O. Sternberger has announced appointment of Edgar S. Catlin as a vice-president under the new owners. Catlin has served the Brunswick, Maine, company in that capacity for several years.

Other key management personnel are continuing in their positions with no immediate change in product or plant in sight. Former orders and plans for plant maintenance contemplated before the sale are continuing also. Ultimately manufacture of magazine papers is expected to replace present specialty processes.

As announced by president Sternberger the new organization follows: chairman of the board, J. D. Gortakowsky; vice-presidents, W. R. Hearst, Jr., H. S. McKay, Jr., John W. Hanes and Catlin; treasurer, G. O. Markuson; assistant treasurer, Morgan Howard; secretary, R. F. McCauley; and assistant secretary, W. P. McGoldrick.

Directors include Sternberger, Gortakowsky, McKay, Howard, Hearst, Jr., and J. D. Coffin.

Keys to Spend $1,300,000

The Keyes Fibre Company, Waterville, Me., manufacturers of molded pulp products announced February 24 it would build a plant at Hammond, Ind., under an expansion program to cost $1,300,000. The estimate included costs of new machinery for the Waterville plant to replace equipment scheduled for installation in the proposed Indiana factory.

Duraloy Nabes Miller

The Duraloy Company, Scottdale, Penna., has named Max Miller of Detroit to be sales manager. He was formerly with Duraloy's representative, F. B. Cornell & Associates, in a sales engineering capacity. Mr. Miller brings to his new executive duties, twenty years experience in the manufacture and sales of static and centrifugal high alloy castings for the various industries.

Strathmore Advances Riggs

WEST SPRINGFIELD, Mass., February 25, 1946—Strathmore Paper Company has appointed Harry E. Riggs as sales manager. Mr. Riggs has served for several years as advertising manager.

Burningham Joins Institute

APPLETON, Wis., February 25, 1946—The Institute of Paper Chemistry, has appointed to its staff F. A. Burningham, formerly with the Brown Company, of Berlin, N. H. Mr. Burningham received the degrees of B. S. and Chemical Engineer at the University of Minnesota in 1917 and 1918. Since 1919 he has been with the research department of Brown Company.

One of his main activities involved the field of microscopy and photomicrography. Other work involved experimental and pilot pulping of wood, the manufacture of special pulps and their bleaching, the study of pulps for viscose and the laboratory and pilot-plant preparation of viscose and rayon, and mill engineering problems. Mr. Burningham is chairman of the Microscopy Committee of TAPPI.

Thomas B. Wadsworth is controller as of January 1, 1946. He comes to the Institute from the Wisconsin Telephone Company, where for many years he was District Commercial Supervisor. C. B. Sitterson, Jr., joins the Administrative Staff as of March 1. Following his graduation from the United States Military Academy with the class of 1940, he has been an engineer in the General Engineering and Consulting Laboratory of General Electric Company, Schenectady, N. Y. His experiences in project leadership, public relations, and supervision of personnel eminently qualify him for his new responsibilities at the Institute where these same functions will be involved. Charles J. Lingelbach, Jr., who has recently joined the Container Section of the Institute as field engineer received his B. S. degree from the School of Mines and Technology, Houghton, Mich. He was honorably discharged from the Army Air Corps with the rank of Lieutenant Colonel, having served in the African and Italian Campaigns as technical inspector and aircraft maintenance officer.

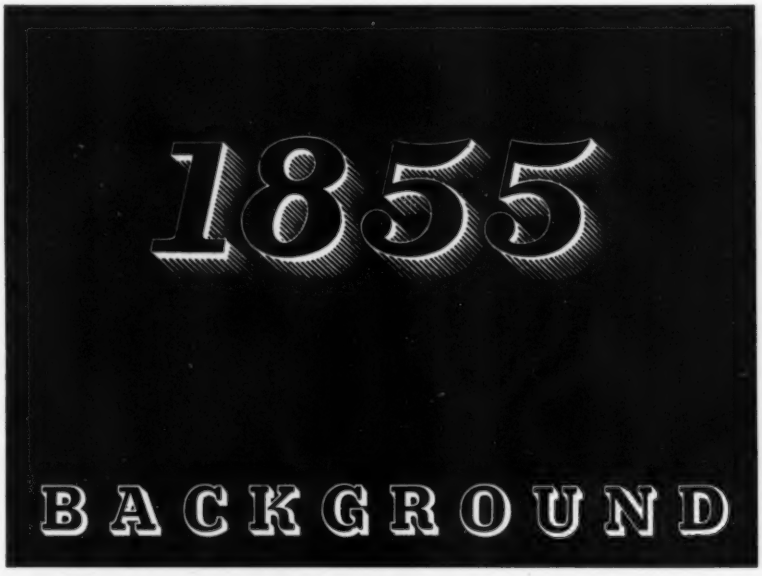
Brotherhood Honors Zink

SPRINGFIELD, Mass., February 20, 1946—John D. Zink of Longmeadow, recently retired president of the Strathmore Paper company of West Springfield, was honored here at a testimonial dinner by Tekoa local 197, International Brotherhood of Papermakers in the Roman room at the Hotel Highland. Zink, an executive of Strathmore for more than 15 years, was presented a 14-carat gold, 17-jewel wrist watch by Michael J. O'Connell, union president, on behalf of the local. Engraved on the back were the words "To John D. Zink from Tekoa Local 197, IB of PM, Feb. 17, 1946."

Speakers included Bart T. Tidlind of Albany, job analysis expert of the brotherhood; John R. Jones of Boston, regional director and vice-president of the brotherhood; toastmaster Frederick J. Rochford, local organizer; President O'Connell and Benjamin G. Hull of Westfield, vice-president of the State Federation of Labor and president of the Westfield Central Labor Union. Tidlind spoke on industrial cooperation and its ramifications.

Goodlee Joins Brown

Paul M. Goodloe has been appointed Technical Sales Representative of the Pulp Sales Division, Brown Company, 500 Fifth Avenue, New York, in a move to expand services to consumers of Brown Company cellulose products which enter the Pulp, Paper and Chemical Industry as raw materials, processing aids, or components of compounded products. A graduate of Johns-Hopkins University, Dr. Goodloe was formerly with the Socony-Vacuum Oil Company, Inc.



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Espanola to Pretreat Pulp

KALAMAZOO, Mich., February 25, 1946—The Kalamazoo Vegetable Parchment Company plans to install a pretreatment system in its new plant at Espanola, Ontario, Canada for the purpose of prerefining the output of the Kraft pulp mill and bleach plant. Pretreated pulps at specified freeness and strength development characteristics will be prepared in the lap and sheet form for shipment to Kalamazoo. The contract for the complete system has been awarded to Alexander Fleck, Ltd. in Ottawa, Ontario, the Canadian associate manufacturers for Black-Clawson, Shartle, and Dilts equipment. The installation should be completed and ready for operation during September or October in 1946.

This stock preparation system will be operated continuously and be completely equipped with process control instruments and remote control stations, centrallized at an operating panel adjacent to the technical control laboratory. The equipment will consist of eight (8) No. 1 Dilts hydrafiners drive by 250 H.P. motors and equipped with hydraulic remote control means for adjusting the Hydrafiner plug setting. The Hydrafiners will operate as individual units in parallel arrangement and each unit will be supplied from a common constant level headbox. The inlet headbox to which the virgin stock will be pumped will be of stainless steel construction and equipped with stock metering gates for the control of capacity. Over each Hydrafiner will be a cycling headbox of cast iron and stainless steel construction. The metered stock will enter the inlet side of the cycling headbox and overflow from the discharge side in like quantity to a collecting trough servicing all Hydrafiners. The discharge from each Hydrafiner will recycle to the inlet, thus providing multiple passes through the Hydrafiner to obtain the required freeness and strength development. The overflow from each cycling headbox will be accumulated at the collector trough and be diluted at this point prior to thorough blending in a Cowles Dissolver-Blender from which the Hydrafined pulp will drop by gravity to the stock chest ahead of the pulp machines. Continuous production of 200-250 tons per 24 hrs. of bleached and unbleached Kraft pulp, pretreated to freeness and strength specifications, is anticipated.

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Miller at Fort Edward

FORT EDWARD, N. Y., February 25, 1946—Kenneth Miller, formerly with the personnel department of the Scott Paper Company, Chester, Pa., has joined the staff of the Marinette Paper Company. He started with the Scott firm in the spring of 1941 as a consumer's representative.

The rebuilding of number five machine in the local branch is nearing completion and paper for wax-finishing will soon be forthcoming. A bright finishing room with white tile walls is being built to house the finishing equipment needed to produce wax paper and two new machines are also being built for the production of toilet and facial tissue.

Westminster Promotes Erler

NEW WESTMINSTER, B. C., February 25, 1946—Fred Erler has been appointed plant superintendent for Westminster Paper Company Limited. Mr. Erler has been in the paper business since he was 15 years of age, and joined the staff of the Westminster Paper Mills in the latter part of 1945. Prior to coming to the west, he was assistant superintendent of the Marinette Paper Company at Marinette, Wis.

Boston Trade to Dine

BOSTON, Mass., February 25, 1946—The annual meeting and dinner of the Boston Paper Trade Association is to be held in the Parker House Roof Ball Room March 20.

Elof Hansson Elects

Olaf Nielsen, Jr. has been elected vice-president in charge of the paper department of Elof Hansson, Inc., New York. Mr. Karl E. Sundqvist, vice-president in charge of the Machinery Department and T. R. Wilbert, vice-president in charge of the Pulp Department.

In addition to importing woodpulp from Sweden, the firm is engaged in exporting paper, paper and pulp machinery and supplies produced by many prominent American manufacturers, to customers throughout the world. Offices of Elof Hansson are located in Gothenburg, Sweden, Sao Paulo and Rio de Janeiro, Brazil, London, England, and Buenos Aires, Argentina. In all other principal markets the firm maintains agencies.

With the end of the war the firm's activities have been expanding steadily. Larger quarters were acquired at 220 East Forty-second Street a few months ago and the staffs of all departments have been increased with the employment of several men released from the Army and Navy.

Paper & Cordage Men Meet

PHILADELPHIA, Pa., February 25, 1946—The Philadelphia Paper & Cordage Association held its regular monthly luncheon meeting at Strawbridge & Clothier's on Thursday last. With upwards of sixty members in attendance, Leonard Fitzgerald rose to the occasion and talked interestingly on the conditions that exist in the paper industry, brought about by the shortages of wood pulp and pulp wood cutting, and advanced some basic thoughts on the possibility of just what the future outlook is.

President W. B. Killhour announced the election of the following to membership in the Association: Superior Paper Products Co., Marion, Indiana, their local representative being Lee Douglas; Crocker-McElwain Co., Holyoke, Mass., with Hobart J. Shanley as its representative; Riegel Paper Corp., New York, N. Y., with Arthur J. Ericson as representative. Mr. Killhour also announced the names of the following firms whose applications will be ballotted on March 21st: Scott Paper Company, Otis Bldg., Phila., with Walter Griscom as representative; Claremont Paper Co., Inc., 342 Madison Ave., New York, N. Y., with Harold Brinig as representative; Sutherland Paper Co., 629 Drexel Bldg., Phila., with F. R. Doherty as representative; Newell & Parkes, 976 Drexel Bldg., Phila., with Harold Newell as representative; Sidco Paper Co., 134-52 N. 22nd Street, Phila., with Sidney B. Bregman as representative; Marathon Corporation, Manasha, Wis., with Robert W. Bertram as representative; Oneida Paper Products Inc., 601 W. 36th St., New York, N. Y., with Irving Zucher as representative; Linderman Paper Company, 2045 Arch Street, Phila., with William J. Linderman as representative.

Quartz Appoints Russell

Philadelphia Quartz Company, Philadelphia, manufacturers of Silicates of Soda and Metso Detergents, has announced the advancement of John C. Russell to Sales Manager. Mr. Russell has been associated with the Company since 1924, and was appointed Assistant Sales Manager in 1942. Mr. Russell is also Secretary and Director of an associate company, the American Doucil Company, manufacturers of synthetic zeolites.

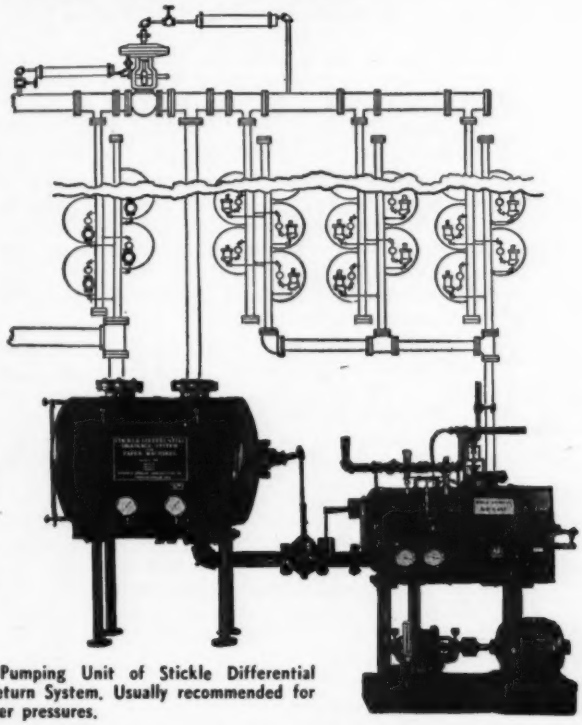
Carl F. Wolcott has been named Manager of Foreign Sales and is also Employment Manager of the Company. Other appointments include Russell J. Emmons, Industrial Relations Manager and John H. Wills, Assistant Patent Manager.

INCREASES PRODUCTION, IMPROVES QUALITY, REDUCES COSTS

Drying Control that stabilizes steam flow, prevents overheating, and permits uniform drying at a predetermined moisture content with very little manual attention.

Pressure differential necessary for good drainage at all drying pressures automatically maintained. All air and gases removed from dryers. Visible operation.

Steam separated from condensate and passed into condensing dryer and condensate carried to pumping unit to be pumped, under pressure, at maximum temperature to boilers or feed water heater.



Receiving Tank and Pumping Unit of Stickle Differential Drainage and Boiler Return System. Usually recommended for mills operating at higher pressures.

• Stickle Drainage and Control is a coordinated system for the control of steam and drainage of condensate that allows paper machines to produce at maximum capacities and with maximum efficiency. Greater uniformity, at a higher quality level is added to increased tonnage, and costs are lowered by gratifying savings in steam costs as well as in the elimination of non-productive hours.

Stickle Drainage and Control is adaptable to any working pressure or operating requirement. Suggestions for improving your drainage and drying will be made without obligation.

Stickle

Detailed information and data on the complete Stickle System are supplied in the new bulletin "Stickle Steam Systems for Paper Mills." Ask for a copy.

STEAM SPECIALTIES COMPANY
2215 VALLEY AVENUE • INDIANAPOLIS, INDIANA

Writing Paper Mfrs. Assn. 85 Years Old

The Writing Paper Manufacturers Association, the oldest trade association in the nation, is celebrating its 85th Anniversary this week. The original group, composed of 21 fine paper mills, organized on February 13, 1861 at Pittsfield, Massachusetts with Harrison Garfield as its first president. Today the membership numbers 98 mills representing an overwhelming proportion of fine paper manufacturers of the United States. Paper produced by member mills includes bonds, ledger, mimeograph, blue print, bristol board, cover and text papers, cigarette and other thin papers, currency and safety papers.

Of the original 21 companies which organized the Association in 1861, three are still members: Carew Manufacturing Company, Parsons Paper Company and Southworth Company. Also on the original list were Agawam Paper Company and Platner & Porter Manufacturing Company, forebearers of the American Writing Paper Corporation.

The other original signers were D. Carson & Company, Chaffee & Hamblin, Carson Brothers, May & Rogers, E. H. Owen, Brown & Hale, Benton & Garfield, South Lee Manufacturing Company, Thomas Colt, Chapin & Gould, Laflin Bros., Prentiss C. Baird, Nyasset Paper Company, Jessup & Laflin and Greenleaf & Taylor Manufacturing Company.

Fine paper production in 1860, the year prior to the founding of the Association, was 76,950 pounds per day compared with today's output of 6,544,000 pounds per day. This is an increase of slightly less than 8000% compared with a population increase in the United States of approximately 350% in the same period, illustrating the necessity of increased use of paper by both business and individuals as society became more complex.

The first communication which the Association still has, was dated November 17, 1875 and was signed by William Whiting, Chairman. Mr. Whiting was the father of the late William Whiting, Secretary of Commerce in the Coolidge cabinet, and was grandfather to the present Whitings who operate the business today.

The history of the Writing Paper Manufacturers Association may logically be divided into two periods, one running from 1861 to 1914 and the other from 1914 to the present time. During the first period the association operated without a paid executive, but in 1914 it obtained the services of an executive secretary to better coordinate the group activities. E. H. Naylor was the first executive secretary and remained in that position for 24 years until his resignation in February 1938. M. C. Dobrow, the present executive secretary, succeeded Mr. Naylor. Mr. Dobrow has served in paper industry trade association activities for thirty years.

In addition to serving as a clearing house for industry statistics and economic information, the Writing Paper Manufacturers Association engages in numerous other special projects. For example, through the activities of the Association the use of cotton and cotton linters, as a new and additional source of raw material for Rag Content mills, was promoted and expanded.

The Association now has in its files 35,000 brands and watermarks applicable to fine paper. Of these approximately 5,000 are registered with the United States Patent Office. The remaining 30,000, although not registered in Washington, are in use and are checked against any new names that members or their customers may wish to use.

Mr. Hanson, Chairman of the Anniversary dinner, introduced the persons present at the speakers' table as follows: Messrs. Norman Harrower, J. D. Zink, M. D. Bardeen, W. W. Carlett, C. A. Clough, H. T. Martin, M. C. Dobrow, D. K. Brown, A. Crabtree, A. D. Cadman, W. W. Langtry, W. J. Garrity, J. R. Remley and G. P. Lee.

Past presidents of the Association include Harrison Garfield, William Whiting, O. H. Greenleaf, B. D. Rising, H. A. Gould, C. M. Burnett, A. W. Esleeck, W. D. Judd, C. A. Crocker, A. B. Daniels, J. G. Taylor, W. J. Raybold, N. W. Wilson, Philip Weston, W. M. Crane, Jr., D. K. Brown, B. A. Franklin, H. R. Baldwin, I. N. Esleeck, R. S. Madden, A. C. Gilbert, J. D. Zink and H. H. Hanson.

Sea Bees Have Pulpwood Cutting Plan

A modernization of the classic phrase, beating swords into plough shares was suggested on behalf of an organized group of former Sea Bees today to the War Emergency Pulpwood Committee of the paper and pulp industry at its meeting at the Waldorf Astoria. A radical revolution in present methods of cutting wood and the conduct of general woods operations was offered in behalf of the former service men by J. L. Piland of the Veterans Administration as a means of meeting the critical need for more pulpwood if the nation's paper mills are to meet the demand for their product.

The War Emergency Pulpwood Committee met to discuss means of promoting the cutting of wood by farmers, contractors and other producers in the face of a crucial lack of woods labor, and means of recruiting woods labor to take the place of some 17,000 prisoners of war who are shortly to be returned to Europe.

The group of Ex-Sea Bees believes that these men can apply to peacetime pulpwood cutting the machinery and know-how developed in their military careers, and at the same time assure their men of adequate earnings. This group proposes to enter into contracts with timberland owners to cut specified quantities of wood to be delivered to the mills at a fixed price per cord. The Sea Bee group would then organize lumber camps, secure machinery, set up living quarters in forest areas, and operate on a profit sharing basis with all those employed on a project participating in the enterprise. The plan visualizes far more mechanization of woods operations than ever before practiced, even though the war crisis resulted in important developments initiated by the paper mill operators, such as the use of power machines for felling and cutting timber into sizes required by the mills.

Collins Fetes Its Service Men

NORTH WILBRAHAM, Mass., February 17—A dinner party honored servicemen who have returned to the Collins Manufacturing Company, at the Collins AA Recreational building, Arrangements were handled by a committee headed by John Tupper which included Paul C. Bast, vice-president of the company, Mrs. Clair Willey, Ralph Tupper, Robert Foster, Mrs. Catherine Keyes and Fred B. Reidy.

The six original employes who have returned to their work are James Whiting, president of the company, Sam Szatkowski, Pete Bokun, William Foy, Emil Motyka and John Miarecki.